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APPENDIX TO CRUISES
FOR AN
OCEANOGRAPHIC SURVEY OF
SANTA MONICA BAY, CALIFORNIA

W. H. O. I.
WOODS
HOLE,
MASS.

conducted by the
University of Southern California
under contract to
Hyperion Engineers, Inc.

January 30, 1957

PREFACE

From all oceanographic surveys vast amounts of data are gathered so that the scientist may reach the resulting conclusions. All too often these data are "lost" in far-flung files, and as the years pass they are completely forgotten. It is the purpose of this APPENDIX to cruises conducted by the University of Southern California for the Hyperion Engineers, Inc. to make the raw data available to those who may be interested, and to reduce the hazard of having the information lost to posterity.

The field and laboratory files will remain in the Hancock Foundation at the University. We would appreciate notification of any obvious errors in the data so that proper corrections may be made.

Submitted by,

Robert E. Stevenson
Director
Inshore Research

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SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% CaCO3	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
2358	46'12" 28'04"	124	s	.022	4.61				15.2	55.2	29.6	
2360	47'59" 27'58"	49	sS	.068	1.90				53.7	30.9	14.8	0.7
2361	47'03" 30'07"	167	Ss	.060	2.00				48.3	39.9	11.8	
2362	46'02" 31'52"	352	Ss	.031	1.94				20.4	60.1	19.5	
2474	46'03" 34'08"	417	s	.011	3.48				2.3	66.2	31.5	
2724	48'00" 30'00"	171	SsG	1.700	ND				25.6	25.0	0.2	49.2
2725	50'00" 28'00"	19	R & G	---	---							
2726	50'00" 30'00"	70	s	.026	2.43				3.6	79.5	16.9	
2727	50'00" 32'00"	66	Ss	.058	1.52				46.8	45.4	7.8	
2788	48'03" 24'47"	9	S	.380	1.33				96.7			3.3
2789	49'59" 34'05"	94	s	.005	ND				1.6	52.9	45.5	
2790	49'58" 36'00"	186	Ss	.027	2.81				24.3	57.8	17.9	
2791	48'00" 36'03"	415	s	.007	ND				1.8	54.2	44.0	
2792	47'59" 33'59"	308	s	.023	3.02				12.9	64.8	22.3	
2793	48'00" 32'00"	257	Ss	.038	4.65				36.3	41.7	22.0	
2991	52'43" 26'53"	22	S	.085	1.24				83.7	9.9	6.4	

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Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% CaCO3	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
2994	55'00" 30'38"	30	sS	.070	3.70				53.8	40.6	5.4	0.2
2995	55'00" 32'27"	37	sS	.360	3.12				76.7	14.0	4.8	3.5
2997	54'57" 33'39"	100	sS	.078	1.16				63.4	32.3	4.4	
2998	51'22" 34'40"	44	Ss	.059	1.80				40.0	43.3	9.6	7.1
2999	53'11" 40'00"	81	s	.035	2.40				13.7	68.1	18.2	
3003	57'02" 40'00"	162	s	.021	2.46				2.9	78.2	19.9	
3056	55'17" 27'23"	10	S	.470	2.27			10.0	100			
3057	56'37" 28'00"	11	S	---	---							
3058	56'52" 28'22"	11	S	.097	1.53				100			
3059	57'04" 28'37"	11	S	---	---							
3060	57'57" 29'26"	13	S	.094	1.40				100			
3061	58'12" 29'37"	13	S	.105	2.05				100			
3062	58'33" 29'55"	11	S	---	---							
3063	58'47" 30'09"	12	S	.248	3.00				100			
3064	59'39" 31'05"	12	sS	.072	1.15				78.2	19.3	2.5	
3065	59'53" 31'18"	12	not analyzed									

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Station No.	Lat 34° Long 118°	Depth fms.	Sed type	MD	So	% CaCO$_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3066	00'02" 31'31"	11	not analyzed									
3067	00'09" 31'48"	10	not analyzed									
3068	01'03" 32'27"	9	not analyzed					6.1				
3069	01'10" 32'45"	9	not analyzed									
3070	01'10" 32'56"	8	sS	.070	1.09			1.8	76.3	21.2	2.5	
3071	01'10" 33'20"	9	S	.088	1.20				88.5	11.5		
3072	01'12" 33'39"	9	not analyzed									
3073	01'12" 34'48"	13	not analyzed									
3074	01'10" 35'09"	15	sS	.072	1.45			.74	60.5	35.0	4.5	
3075	01'08" 35'34"	13	sS	---	---							
3076	00'26" 35'33"	20	sS	---	---							
3077	Lat 33° 59'18" 33'45"	26	sS	.063	1.38				54.3	41.8	3.9	
3078	59'12" 32'15"	19	sS	.069	1.36				64.0	32.2	3.8	
3079	58'28" 31'35"	22	sS	.085	1.08			2.59	66.4	33.6		
3080	57'42" 30'58"	22	not analyzed									

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Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% CaCO$_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3081	57'02" 30'27"	22	S	.068	1.22				100			
3082	56'00" 29'53"	21	not analyzed									
3083	55'39" 29'41"	23	not analyzed									
3084	53'20" 28'03"	26	not analyzed									
3085	51'40" 27'00"	33	not analyzed									
3086	52'30" 29'25"	33	Ss	.052	1.53				35.6	59.9	4.5	
3087	53'32" 30'11"	31	S	.420	2.81				100			
3088	54'30" 30'43"	30	Ss	.052	2.81			8.7	43.1	49.5	7.4	
3089	55'57" 31'11"	31	S	.620	7.9				100			
3090	55'33" 31'36"	29	not analyzed									
3091	56'48" 32'26"	30	not analyzed									
3092	54'28" 32'08"	33	sS	.380	3.38			5.8	76.3	21.6	2.1	
3093	52'40" 31'04"	31	SG	>2.000					37.8	4.6		57.6
3094	52'08" 33'55"	40	sS	.110	5.37			2.65	69.5	30.5		
3095	55'20" 31'46"	31	S	.235	1.62				100			
3096	55'36" 30'41"	27	not analyzed									

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Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% CaCO$_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3097	56'15" 29'07"	18	sS	.069	1.17			11.1	72.5	27.5		
3098	56'27" 28'35"	13	S	.105	1.10			13.5	100			
3099	56'23" 28'17"	16	lt gray S	.128	1.51		0.274	7.1	90.0	6.0	4.0	
3100	52'40" 27'51"	31	lt gray sS	.063	1.31		0.634	2.4	54.5	43.6	1.9	
3101	50'11" 23'43"	36	lt gray Ss	.031	2.38		0.227	2.04	24.8	64.4	10.8	
3102	49'51" 24'55"	95	ol gray s	.022	2.55	14.6	2.71	1.67	12.3	69.0	18.7	
3103	49'37" 26'05"	150	ol gray s	.022	2.31	14.9	2.43	1.67	17.5	67.1	15.4	
3105	48'46" 28'07"	223	ol gray sS	.096	1.65	8.1	1.02	2.26	71.6	26.1	2.3	
3106	48'14" 30'30"	300	ol gray Ss	.033	1.97	12.5	1.65	3.4	22.2	71.7	6.1	
3107	47'36" 32'54"	300	ol gray s	.029	1.93	12.0	1.61		15.7	77.8	6.5	
3110	53'47" 41'12"	270	ol gray s	.026	1.67		1.87		1.0	95.2	3.8	
3111	55'18" 33'45"	235	ol gray Ss	.036	2.14	12.2	1.10		29.9	64.7	5.4	
3112	55'30" 36'07"	188	ol gray Ss	.052	1.73	12.5	0.876	5.2	42.0	56.4	1.6	
3113	55'00" 33'48"	113	ol gray Ss	.044	1.95		1.38	6.6	33.9	58.0	8.1	
3114	55'08" 32'00"	35	ol gray sS	.084	3.10		0.261	6.91	56.8	42.7	0.5	
3115	Lat 34° 01'24" 36'36"	17	ol gray Ss	.059	1.53		0.697	1.42	47.0	47.7	5.3	

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Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3116	55'55" 31'20"	28	ol gray G	---	---							
3117	55'46" 29'44"	22	not analyzed									
3118	55'49" 28'48"	17	S	1.050	1.13				100			
3119	55'55" 28'13"	14	sS	.065	1.40			4.1	65.2	34.8		
3120	55'56" 27'50"	11	not analyzed									
3121	55'48" 27'24"	9	not analyzed					7.2				
3122	55'47" 27'27"	10	not analyzed									
3123	55'33" 27'46"	12	not analyzed									
3124	55'32" 29'12"	20	not analyzed									
3125	55'35" 29'51"	24	not analyzed									
3126	55'34" 30'28"	26	not analyzed									
3127	55'36" 31'10"	29	not analyzed									
3128	55'20" 31'40"	31	not analyzed									
3129	55'18" 29'06"	21	not analyzed									
3130	55'17" 28'35"	19	sS	.084	1.32				72.9	27.1		
3131	55'10" 27'11"	10	S	.560	1.40				100			

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Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3132	55'00" 27'46"	14	not analyzed									
3133	54'43" 28'32"	21	not analyzed									
3134	54'33" 28'59"	24	sS	.063	1.43				55.4	44.6		
3135	54'22" 29'31"	27	not analyzed									
3136	54'14" 29'58"	29	not analyzed									
3137	54'03" 30'30"	31	S	.320	2.31			21.3	100			
3138	53'56" 30'59"	31	sS	.460	4.76				74.6	20.7	4.7	
3139	53'38" 31'40"	31	not analyzed									
3140	53'20" 32'10"	32	R (ss)	---	---							
3141	53'24" 31'23"	31	not analyzed									
3142	54'01" 29'27"	28	not analyzed									
3143	54'10" 29'00"	25	not analyzed									
3144	54'28" 28'18"	21	not analyzed									
3145	54'40" 27'47"	16	S	.190	1.50			4.5	100			
3146	54'57" 27'02"	10	not analyzed									
3147	54'24" 26'52"	10	S	.105	1.10			8.2	100			

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Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3148	54'08" 27'00"	11	S	.105	1.10				100			
3149	54'01" 27'06"	12	not analyzed					1.69				
3150	53'20" 27'36"	20	S	.112	1.11			6.3	100			
3151	52'42" 27'11"	24	not analyzed									
3152	52'57" 27'15"	20	S	.100	1.09			10.3	100			
3153	53'34" 26'58"	14	S	.100	1.09				100			
3154	53'57" 26'45"	10	S	.089	1.02			4.3	100			
3155	54'05" 26'41"	10	S	.106	1.11			7.5	100			
3156	54'15" 26'23"	8	S	.110	1.11			6.6	100			
3157	54'10" 26'15"	7.25	S	.105	1.10				100			
3158	53'47" 26'23"	8	S	.106	1.10			6.5	100			
3159	53'10" 26'32"	13	S	.102	1.09				100			
3160	52'04" 26'33"	23	not analyzed									
3161	47'56" 25'12"	12.5	ol gray S	.105	1.35		0.230	5.34	92.7	2.9	4.4	
3162	47'59" 25'09"	12.5	not analyzed									
3163	49'53" 24'39"	60	gray s	.006	2.63			6.7	1.9	70.0	28.1	

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Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3164	49'52" 24'37"	80	gray Ss	.039	2.82		2.19	4.8	35.8	55.6	8.6	
3165	50'03" 23'06"	22	ol gray Ss	.033	2.43		2.70	1.61	36.1	58.8	5.1	
3166	49'15" 27'14"	196	ol gray Ss	.029	3.14		2.32		32.7	55.6	11.7	
3167	48'16" 29'38"	280	ol gray Ss	.043	2.89		1.72	4.0	40.0	50.0	10.0	
3168	47'40" 32'10"	315	ol gray Ss	.043	2.61		1.36	2.6	35.4	53.2	11.4	
3169	46'33" 33'42"	380	ol gray s	.013	2.54		2.18		4.1	80.8	15.1	
3170	46'38" 37'02"	460	ol gray s	.008	2.05		2.73		0.9	81.5	17.6	
3171	48'10" 37'04"	425	gray s	.012	2.07		2.74		1.2	88.0	10.8	
3172	55'05" 32'13"	32	ol gray sS	.210	3.54		0.391		73.7	26.2		
3173	48'04" 39'21"	462	ol gray s	.005	2.11		1.88		0.4	63.8	35.8	
3174	50'22" 39'20"	352	ol gray s	.006	2.63		2.29		1.6	62.4	36.0	
3175	50'00" 41'45"	410	ol gray s	.007	2.44		2.61		1.4	65.9	32.7	
3176	51'58" 41'57"	330	br bl s	.009	2.43		2.15		1.6	72.4	26.0	
3177	53'26" 41'36"	294	ol gray s	.016	3.21		1.85		6.3	66.8	26.9	
3178	54'38" 39'48"	230	ol gray s	.010	3.05		1.66		9.8	67.6	22.6	
3179	55'39" 38'00"	190	ol gray s	.038	1.25		1.04	3.4	19.9	61.3	18.8	

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Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3180	55'30" 35'55"	160	ol gray Ss	.043	2.55		1.42	3.0	37.4	50.4	12.2	
3181	55'12" 34'00"	104	ol gray sS	.063	2.51		1.05		50.2	33.5	16.3	
3183	58'38" 31'35"	20	not analyzed									
3184	59'28" 30'58"	13	not analyzed									
3185	59'50" 31'29"	13	not analyzed									
3186	59'50" 32'05"	14	not analyzed									
3187	59'48" 33'15"	20	not analyzed									
3188	59'40" 35'34"	28	not analyzed									
3189	53'05" 31'18"	31	not analyzed									
3190	53'01" 28'23"	31	not analyzed									
3191	53'02" 26'20"	13	not analyzed									
3192	52'24" 25'55"	15	not analyzed									
3193	51'55" 25'47"	17	not analyzed									
3194	53'05" 33'07"	37	ol gray sS	.093	2.41		0.945		61.6	24.2	14.2	
3195	53'03" 32'24"	33	ol gray sS	.150	1.73	39.6	0.660	0.9	77.2	9.1	13.7	
3196	57'20" 28'41"	11	not analyzed									

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Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% CaCO$_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3197	58'01" 30'51"	18	not analyzed									
3198	Lat 34° 01'14" 39'30"	16	-----	---	---				63.0	26.8	10.2	
3199	01'58" 39'30"	10	gray bl sS	.071	1.34		0.716					
3200	01'38" 40'02"	10	not analyzed									
3201	01'04" 39'50"	15	not analyzed									
3202	00'19" 39'27"	28	s	.036	1.58				13.5	70.1	16.4	
3203	00'00" 39'13"	34	gr bl s	.041	1.47		0.602		13.5	72.8	13.7	
3204	Lat 33° 58'10" 39'10"	115	ol gray s	.032	3.10		1.36		14.2	62.7	23.1	
3205	58'00" 37'00"	88	ol gray s	.041	1.25		1.35		13.5	63.6	22.9	
3206	Lat 34° 00'02" 37'02"	31	gr bl Ss	.053	1.41		0.505		42.8	47.3	9.9	
3207	Lat 33° 59'58" 35'25"	27	not analyzed									
3208	Lat 34° 00'03" 34'40"	25	gr bl Ss	.043	1.41		0.806	0.8	30.9	59.8	10.2	
3209	Lat 33° 57'54" 34'35"	57	gr bl sS	.095	1.69		0.737	2.4	69.6	23.2	7.2	

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Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% CaCO$_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3210	57'58" 32'36"	29	ol gray sS	.063	1.62		0.637		51.2	42.9	5.9	
3211	59'15" 32'05"	14	not analyzed									
3212	59'32" 32'07"	17	not analyzed									
	Lat 34°											
3213	00'00" 32'28"	15	bl sS	.078	1.28		0.667	1.32	68.4	25.9	5.7	
3214	00'12" 32'07"	11	not analyzed									
3218	00'03" 30'20"	6.5	ol gray S	.112	1.48		0.338		84.6	12.6	2.8	
	Lat 33°											
3219	56'00" 27'45"	11	ol gray sS	.390	3.48		0.383		78.8	15.7	0.4	5.1
3220	54'51" 27'00"	10.5	ol gray S	.087	1.17		0.906	1.20	89.3	9.1	1.6	
3221	46'26" 25'23"	18	r bl S	.840	1.73		0.678	1.5	99.3			0.7
3222	46'30" 28'42"	110	ol gray s	.046	1.30		1.45	2.0	19.8	66.8	13.4	
3223	48'27" 31'11"	165	not analyzed									
3224	48'32" 28'30"	235					2.8	1.09				
3225	48'30" 26'10"	40	gr bl Ss	.048	1.36		0.936	0.7	31.0	56.0	13.0	
3226	50'33" 26'15"	41	gr bl sS	.090	1.71		0.692	3.78	65.0	21.8	9.8	3.4
3227	50'40" 28'45"	65	ol gray Ss	.053	1.51		0.934	1.7	38.8	46.4	14.8	

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Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% CaCO3	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3228	50'30" 31'04"	60	ol gray s	.035	1.71		1.27	1.4	13.7	71.2	15.1	
3229	50'35" 33'30"	46	ol gray sS	.099	1.64		1.24	3.0	72.8	16.3	10.9	
3230	52'33" 38'22"	150	ol gray sS	.084	1.52	19.6	1.24		72.8	17.6	9.6	
3231	52'48" 36'05"	42	gr bl sS	.093	4.61	45.6	+5.54		60.9	13.9	25.2	
3232	52'38" 33'36"	38	gr bl G	---	---							
3233	52'28" 31'13"	36	gr bl sS	.063	2.24		0.717		50.5	36.2	13.3	
3234	52'24" 28'40"	40	ol gray s	.034	1.82		1.21		11.2	68.0	20.8	
3235	52'20" 25'50"	15	gray S	.084	1.32		0.406		83.3	7.2	9.5	
3236	54'58" 27'30"	145	gr bl S	.097	1.17		0.416		88.2	2.8	9.0	
	Lat 34°											
3237	00'28" 31'18"	8.5	ol gray sS	.085	1.48		0.200	1.3	70.6	18.4	11.0	
3238	01'20" 33'27"	10.5	gr bl sS	.076	1.27		0.232	1.23	72.9	16.9	10.3	
3239	01'50" 35'38"	10.5	gr bl sS	.068	1.82		0.560	0.80	55.7	33.0	11.3	
3240	00'20" 37'15"	27	ol gray Ss	.053	1.69		0.675	0.89	41.5	44.0	14.5	
	Lat 33°											
3241	58'36" 38'22"	95	ol gray Ss	.048	1.42		0.948	1.55	30.2	61.7	8.1	
3242	58'35" 36'00"	75	ol gray Ss	.048	1.39		0.868		27.6	63.8	8.6	

APPENDIX TO CRUISES

SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3243	58'42" 31'40"	30	gr bl Ss	.185	2.69		0.739	3.7	71.5	25.3	3.2	
3244	58'40" 31'24"	20	gr bl Ss	.058	1.32		0.472	0.51	44.6	48.3	7.1	
3245	58'33" 29'00"	8.5	ol gray sS	.065	4.62			1.6	54.4	18.6	27.0	
3246	56'33" 27'24"	9.5	gr bl sS	.078	1.38		0.633	2.3	69.8	24.7	6.4	
3247	56'32" 29'06"	18	gr bl Ss	.061	1.21		0.483	2.4	48.1	45.9	6.0	
3248	56'38" 31'20"	28	ol gray sS	.078	1.45		0.396		66.0	24.0	10.0	
3249	56'38" 33'48"	60	not analyzed									
3250	56'33" 36'10"	105	ol gray S	.100	1.27		1.97		100			
3251	56'33" 38'29"	138	gr bl s	.013	4.05	14.0	2.17		1.8	66.0	32.2	
3252	56'07" 32'26"	33	gr bl S	.285	2.16		0.302		100			
3253	56'38" 33'48"	60	ol gray S	.380	1.65		0.204	2.7	100			
3254	54'36" 33'38"	60	ol gray G	---	---		0.340		10.0			90.0
3255	54'51" 36'02"	100	gr bl sS	.078	1.34	18.4	0.866	3.1	70.5	16.8	12.7	
3256	52'38" 33'35"	38	not analyzed									

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SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3257	52'45"*											
	31'49"											
	53'08"											
	32'15"	29	R & G	---	---							
3258	58'12	10	not									
	29'24"	to 40	analyzed									
3259	57'50"	10	not									
	28'55"	to 40	analyzed									
3260	57'32"	10	not									
	28'36"	to 40	analyzed									
3261	57'12"	10	not									
	28'25"	to 40	analyzed									
3262	56'45"	10	not									
	28'12"	to 40	analyzed									
3263	56'42"	10	not									
	28'05"	to 40	analyzed									
3264	56'30"	10	not									
	28'23"	to 40	analyzed									
3265	57'00"	10	not									
	28'48"	to 40	analyzed									
3266	56'40"	10	not									
	30'25"	to 40	analyzed									
3267	56'43"	10	not									
	30'55"	to 40	analyzed									
3268A	53'36"											
	31'47"											
	53'27"											
	31'57"	30±	S & R & G				0.679(s)					

* This indicates the station is between Lat 33°52'45", Long 118°31'49" and Lat 33°53'08", Long 118°32'15".

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SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3268B	53'05" 31'10" 53'06" 31'24"	30±	R & G									
3268B	53'05" 31'10" 53'06" 31'24"	30±	gr bl sS	.165	2.65				66.5	15.5	9.6	8.4
3268C	52'25" 32'25" 52'38" 32'05"	30±	R & G	---	---							
3268D	53'05" 32'55" 52'50" 32'57"	30±	R & G	---	---							
3268E	52'50" 33'37" 52'53" 34'20"	30±	R & G	---	---							
3269	Lat 34° 01'12" 32'25"	8	gr bl S	.081	1.20		0.375	2.7	82.6	10.5	6.9	
3270	Lat 33° 55'18" 30'18"	27	not analyzed									
3271	51'10" 25'53"	35	not analyzed									
3272	50'55" 24'50"	18	not analyzed									
3273	Lat 34° 01'30" 30'18"	7	not analyzed									

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SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3283	53'58"											
	31'50"	32										
	52'14"											
	32'47"	38	R & G	---	---							
3284	54'20"											
	32'44"	34										
	52'30"											
	33'03"	38	R & G									
3285	54'53"											
	32'44"	36										
	52'30"											
	33'03"	40	R & G	---	---							
	Lat 34°											
3287	00'44"											
	32'06"	9.5	gr bl sS	.078	1.11		0.386	2.2	79.4	16.3	4.3	
3288	00'45"											
	33'09"	17.5	gr bl sS	.062	1.51		0.728	1.1	50.4	41.9	7.7	
3289	01'02"											
	36'07"	19	ol gray sS	.075	1.77		0.754	0.8	61.2	25.5	13.3	
3290	01'01"											
	38'08"	21	ol gray Ss	.052	1.51	6.5	0.781	0.9	34.8	59.6	5.6	
	Lat 33°											
3291	59'22"											
	38'32"	40	gr bl Ss	.059	1.35	6.9	0.596		41.6	55.2	3.2	
3292	59'13"											
	36'32"	43		---	---			2.0				
3293	59'11"											
	34'32"	30.5	gr bl sS	.069	1.26		0.507	2.3	67.6	31.1	1.3	
3294	59'14"											
	32'34"	22.5	gr bl sS	.067	1.31		0.704		57.8	38.8	3.4	
3295	58'15"											
	29'58"	20.5	ol gray sS	.075	1.19		0.601	1.3	71.8	27.1	1.1	

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SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% CaCO$_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3296	56'49" 29'55"	21	gr bl sS	.082	1.29		0.797		72.3	26.1	1.6	
3297	56'49" 31'54"	29	ol gray S	.092	1.36		0.339		80.1	14.5	5.4	
3298	55'51" 33'30"	67	gr bl S	.116	1.32		0.385	4.2	86.8	8.8	4.4	
3299	53'44" 28'32"	26	sS	.078	1.38		0.490	1.2	70.1	24.8	5.1	
3300	56'56" 27'09"	10.5	ol gray G	---	---							
3301	57'09" 29'00"	10	ol gray G	>2.000					10.0	1.4	1.1	87.5
3303	51'41" 26'23"	27	ol gray S	.080	1.19			1.1	80.2	14.5	5.3	
3304	51'33" 28'48"	56	gr bl Ss	.049	2.25			2.1	36.0	54.4	9.6	
3305	51'24" 31'07"	37	gr bl GsS	.180	6.38	41.9	0.852	0.6	46.6	27.6	5.9	19.9
3306	51'13" 33'31"	41	gr bl sS	.135	3.13		1.36	1.2	61.5	24.1	7.1	7.3
3307	49'04" 33'32"	132	gr bl S	.103	1.09		0.957	2.8	100			
3308	49'07" 31'11"	85	ol gray s	.044	1.18		1.45		4.3	87.0	8.7	
3316	55'26" 27'21"	10.5	no recovery									
3317	55'31" 26'40"	7.5	ol gray Ss	.058	1.84		1.04		46.5	45.4	8.1	
3317	55'31" 26'40"	7.5	0-12" Ss	.053	1.43				36.9	55.1	8.0	
3317	55'31" 26'40"	7.5	12-13" ol gray S	.120	2.16				89.2	8.2	2.6	

APPENDIX TO CRUISES

SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3317	55'31" 26'40"	7.5	14-23" S	.097	1.90				85.0	13.8	1.2	
3318	55'33" 27'50"	15	gr bl S	.093	1.22		1.01		87.4	9.5	3.1	
3319A	55'17" 28'25"	18	60" ol gray sS	.071	1.18				79.3	16.4	4.3	
3319B	55'17" 28'25"	18	gr bl sS	.084	1.26		0.452	1.12	78.0	17.5	4.5	
3320	55'20 28'59"	22	gr bl sS	.072	2.00		0.600		57.3	3.6	39.1	
3320	55'20" 28'59"	22	0-6" sS	ND	ND				56.5	38.2	5.3	
3320	55'20" 28'59"	22	6-15" ol gray Ss	ND	ND				37.9	61.7	0.4	
3321	55'17" 29'36"	25	Ss	.037	1.29	5.5	0.602		26.8	54.1	19.1	
3321	55'17" 29'36"	25	0-6" gr bl Ss	.054	1.40				39.0	60.1	0.9	
3321	55'17" 29'36"	25	6-11" missing									
3321	55'17" 29'36"	25	11-27" Ss	.056	1.32				37.8	56.0	6.2	
3322	55'13" 30'17"	27	gr bl Ss	.048	1.63	3.8	0.450		34.2	60.8	5.0	
3322	55'13" 30'17"	27	0-18" Ss	.057	1.33				39.5	56.6	3.9	
3322	55'13" 30'17"	27	18-24" Ss	.052	1.45				35.8	58.3	5.9	
3322	55'13" 30'17"	27	24-36" Ss	.056	1.70				35.6	49.4	6.7	8.3

APPENDIX TO CRUISES

SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% CaCO$_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3322	55'13" 30'17"	27	36-39" gray sS	.066	2.38		0.439		52.8	44.9	2.3	
3323	55'12" 30'46"	30.5	gr bl S	.350	ND		0.355		100			
3323	55'12" 30'46"	30.5	0-5" Ss	.061	1.58			1.97	48.7	46.0	5.3	
3323	55'12" 30'46"	30.5	5-14" Ss	.057	1.78				45.8	48.6	5.6	
3323	55'12" 30'46"	30.5	14-30" sS	.064	2.51				51.7	41.8	6.5	
3323	55'12" 30'46"	30.5	30-35" GsS	.375	3.99				63.3	24.7	1.5	10.5
3323	55'12" 30'46"	30.5	35-36" gray GsS	.812	ND				59.4	11.8	2.7	26.1
3324	55'11" 31'23"	32.5	gr bl sS	.073	3.22		0.208	5.61	60.9	31.9	7.2	
3324	55'11" 31'23"	32.5	0-10" gray GsS	.240	3.75				73.9	15.5	0.6	10.9
3324	55'11" 31'23"	32.5	10-14" SsG	>2.000	ND				24.9	13.0	2.1	60.0
3325	55'06" 31'57"	34.5	gr bl sS	.094	4.08		0.139	6.52	65.4	31.2	3.4	
3325	55'06" 31'57"	34.5	0-13" sS	.160	3.84			4.68	60.1	29.7	5.0	5.2
3325	55'06" 31'57"	34.5	13-17" gray sS	.240	2.12				79.2	5.7	14.0	1.1
3325	55'06" 31'57"	34.5	17-34" sS	.075	3.22				60.2	24.6	15.2	
3325	55'06" 31'57"	34.5	34-40" sS	.081	1.23				74.7	14.1	11.2	
3326	55'03" 32'05"	37	gr bl sS	.405	4.52			3.81	72.2	23.9	3.9	

APPENDIX TO CRUISES

SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3326	55'03" 32'05"	37	17-28" gray sS	.284	2.32		0.182		80.3	13.8	0.8	5.1
3327	55'02" 33'09"	50	2-6" ol gray SG	2.300	3.94				34.5	1.7	0.1	63.7
3327	55'02" 33'09"	50	6-16" ol gray S	.098	1.44				87.3	12.6	0.1	
3327	55'02" 33'09"	50	16-18" ol gray sS	.088	1.64				69.4	28.3	2.3	
3328	Lat 34° 01'33" 32'52"	6.5	ol gray sS	.074	1.32		0.182	2.18	79.3	18.6	2.1	
3329	Lat 33° 57'47" 35'47"	85	gr bl sS	.023	1.98	7.8	1.66		27.5	57.3	15.2	
3330	57'55" 34'40"	60	ol gray S	.084	1.23	5.0	0.479		80.6	15.3	4.1	
3331	57'59" 33'27"	32	gr bl S	.210	2.78	3.5	0.330	2.47	85.6	12.2	2.2	
3332	58'05" 32'14"	28	ol gray sS	.063	1.44	5.8	0.657	3.06	52.2	43.0	4.8	
3333	58'11" 31'06"	21	bl sS	.071	1.64	5.3	0.783		61.5	32.2	6.3	
3333A	56'12" 30'03"	23	ol gray S	.072	1.12		0.575		81.8	13.3	4.9	
3334	58'15" 29'55"	14	ol gray S	.092	1.29	5.9	1.27		100			
3335	58'20" 28'43"	7	ol gray sS	.068	1.37			1.13	60.3	35.8	3.9	
3336	57'20" 28'36"	12	ol gray sS	.082	2.02	4.5	0.709		67.9	28.9	3.2	
3337	57'15" 29'48"	18	bl Ss	.060	1.42	4.3	0.555	0.85	46.1	51.8	2.1	

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SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3338	57'10" 20'59"	24.5	gr bl Ss	.049	1.25		1.12	4.77	34.7	60.0	5.3	
3339	57'05" 32'10"	28.5	gr bl sS	.074	1.17	4.5	0.365		73.0	23.9	3.1	
3340	57'00" 33'20"	35.5	ol gray sS	.079	2.48	5.7	0.371		59.7	38.4	1.9	
3341	56'55" 34'35"	77	gr bl sS	.070	1.59	7.6	0.830	2.23	57.4	34.2	8.3	
3342	56'50" 35'43"	105	gr bl s	.042	1.18	12.3	2.18		3.9	81.6	14.5	
3343	55'59" 35'38"	121	gr bl s	.043	1.22		1.72		13.2	66.4	20.4	
3344	55'55" 34'26"	100	gr bl s	.045	1.27	11.6	1.54	2.98	19.7	61.6	18.7	
3345	56'00" 33'15"	54	ol gray S	.150	1.28			2.93	87.1	6.1	6.8	
3346	56'05" 32'04"	32	ol gray sS	.105	1.73		0.494		78.6	18.2	3.2	
3347	56'12" 30'48"	27	bl sS	.080	1.21	5.0	0.154		63.6	33.2	3.2	
3348	56'15" 29'42"	24	bl Ss	.056	1.64	4.2	0.575	0.93	43.3	51.8	4.9	
3349	56'20" 28'31"	16.5	bl sS	.080	1.52	6.8	0.507	1.27	66.5	27.7	5.8	
3350	54'23" 28'20"	23	bl sS	.062	2.05	6.0	0.529	0.80	50.0	38.2	11.8	
3351	54'18" 29'30"	28.5	bl Ss	.043	1.66		0.529	1.60	28.9	67.0	4.1	
3352	54'13" 30'42"	32	ol gray Ss	.048	1.19		0.319	11.89	44.1	52.7	3.2	
3353	54'07" 31'52"	33	ol gray sS	.325	3.13	5.5	0.185		77.8	19.6	2.6	

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SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3354	54'02" 33'03"	39	gr bl sS	.118	3.19	35.2	0.716		73.5	22.1	4.4	
3355	46'32" 27'03"	32	gr bl sS	.086	1.27	25.7	0.458	1.58	78.7	17.7	3.6	
3356	46'35" 29'25"	155	ol gray s	.046	1.23	13.0	1.03		14.1	82.3	3.6	
3357	46'35" 31'49"	330	not analyzed									
3358	46'47" 34'06"	390	gr bl s	.038	1.30	13.8	1.78		1.1	69.3	29.6	
3359	48'38" 36'29"	312	ol gray s	.040	1.29	16.4	1.59		1.5	72.4	26.1	
3360	48'42" 34'05"	210	gr bl Ss	.049	1.32	18.9	1.41		29.1	62.3	8.6	
3361	48'43" 31'44"	106	gr bl Ss	.048	1.26	13.7	1.31	4.30	23.9	68.3	7.8	
3362	48'43" 29'21"	170	gr bl Ss	.052	1.76	5.5	0.679	3.50	38.4	55.7	5.9	
3363	48'43" 27'00"	105	gr bl s	.043	1.21		2.30		4.7	83.0	12.3	
3364	50'38" 24'47"	16	gr bl S	.094	1.22		0.663		90.8	8.4	0.8	
3365	52'38" 27'15"	26	gr bl sS	.074	1.37				71.5	23.2	5.3	
3366	56'34" 30'32"	24	not analyzed									
3367	56'34" 28'10"	12	bl S	.245	3.56	4.2	0.412		86.3	11.3	2.4	
3368	54'37" 27'06"	11	ol gray S	.091	1.19		0.520		92.8	4.3	2.9	
3369	54'38" 29'28"	27	gr bl Ss	.047	2.21		1.04		39.2	53.5	7.3	

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SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3370	54'38" 31'50"	33.5	gr bl GsS	.315	2.54	5.2	0.338		66.8	18.4	3.7	11.1
3371	54'38" 34'11"	80	gr bl sS	.084	1.68	24.7		3.05	66.8	23.9	9.3	
3372	52'42" 34'13"	42	ol gray SsG	.600	ND				42.2	12.5	4.2	41.1
3373	50'42" 34'15"	50	gr bl S	.175	1.91				80.2	12.0	4.8	3.0
3374	50'44" 31'53"	49	gr bl S	.143	1.54				80.7	13.9	5.4	
3375	50'42" 29'32"	65	gr bl s	.042	1.22	8.0			1.7	84.9	13.4	
3376	50'40" 27'10"	41	bl Ss	.058	1.70	6.1		3.72	45.6	49.1	5.3	
3377	52'40" 29'29"	33	bl Ss	.055	3.02	22.2			45.9	48.6	5.5	
3378	52'40" 31'52"	30	gr bl S	.208	1.49	87.7			89.2	9.5		1.4
3379	56'35" 32'52"	34	ol gray sS	.315	1.80	6.3			79.5	17.0	3.5	
3380	58'30" 31'44"	24	bl s	.045	1.23	5.0			9.9	84.7	5.4	
3381	58'32" 29'26"	9.5		---	---	3.2						
3382	Lat 34° 00'13" 31'08"	8.5	bl Ss	.057	1.46	5.0			43.2	53.4	3.4	
3383	Lat 33° 58'30" 34'07"	33	ol gray sS	.090	2.86	5.8		7.27	67.1	29.5	3.4	
3384	Lat 34° 00'12" 33'28"	17	bl s	.045	1.23	5.0			17.2	77.4	5.4	

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SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3385	50'00" 32'23"	65	gr bl s	.042	1.29	20.8			16.9	74.7	8.4	
3386	50'00" 34'48"	100	gr bl sS	.118	1.97			0.94	67.4	27.8	4.8	
3387	51'59" 37'10"	50	ol gray S	.586	2.17				90.5	6.4	3.1	
3388	52'01" 34'48"	40	gr bl Ss	.053	3.24	49.2			45.6	45.9	8.5	
3389	52'03" 32'33"	38	gr bl Ss	.059	4.36	29.0		1.28	48.6	44.0	7.4	
3390	52'05" 30'00"	33	gr bl GSs	.066	6.40				28.9	44.4	4.5	22.2
3391	54'06" 30'00"	30	gr bl Ss	.056	1.48				40.2	53.5	6.3	
3392	54'06" 32'33"	35	ol gray GsS	1.080	ND				55.5	12.6	4.7	27.2
3393	54'02" 34'12"	41	gr bl sS	.114	2.14				73.1	16.7	7.9	2.3
3394	56'14" 32'27"	32	gr bl S	.126	1.36			11.22	81.9	12.0	2.5	3.6
3395	56'15" 30'00"	24	gr bl sS	.070	1.35	5.4		1.94	63.3	29.8	6.9	
	Lat 34°											
3397	00'03" 30'06"	7	ol gray S	.087	1.22	3.1			88.3	9.3	2.4	
3398	01'22" 33'02"	7	ol gray S	.077	1.19	5.4			81.8	14.4	3.8	
	Lat 33°											
3399	52'08" 39'15"	250	ol gray s	.042	1.27	12.8			14.3	72.6	13.1	
3400	50'30" 37'06"	220	gr bl Ss	.045	1.46	12.8			25.2	74.5	0.3	

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SANTA MONICA BAY

Station No.	Lat 33° Long 117°	Depth fms.	Sed type	MD	So	% CaCO$_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3401	37'00" 58'19.2"	9.5	not analyzed									
3402	36'49.8" 58'27.6"	10	not analyzed									
3403	37'7.2" 58'56.4"	10.5	not analyzed									
3404	36'34.2" 57'59.4"	10.5	not analyzed									
3405	37'00" 59'46.2"	12.5	not analyzed									
3406	36'44.4" 59'18.6"	14	not analyzed									
3407	36'28.2" 58'48"	16	not analyzed									
3408	36'10.8" 58'18.6"	21	not analyzed									
3409	35'53.4" 57'49.8"	24	not analyzed									
	Long 118°											
3410	40'20" 48'28"	448	not analyzed									
3411	43'30" 52'01"	487	not analyzed									
3412	44'53" 46'04"	488	not analyzed									
3413	41'15" 47'03"	487	not analyzed									
3414	44'36" 47'05"	486	not analyzed									
3415	55'42" 32'04"	33	ol gray S	.120	1.86				85.2	13.4	1.4	
3416	47'35" 28'21"	40.5	gr bl sS	.065	1.23			6.69	58.4	36.0	5.6	

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SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% CaCO$_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3417	49'42" 28'19"	70	ol gray sS	.066	1.41	9.6			55.4	36.5	8.1	
3418	51'38" 27'23"	37.5	gr bl Ss	.052	1.26	5.9		1.33	26.5	69.3	4.2	
3419	55'35" 30'36"	26	bl sS	.090	2.98			5.38	62.7	33.4	3.9	
3420	57'58" 34'01"	38	gr bl sS	.100	1.64			2.89	68.9	20.4	7.5	3.2
3421	56'20" 37'00"	122	gr bl s	.018	3.18	14.3			3.3	69.3	27.4	
3422	53'47" 36'34"	50	ol gray sS	.365	3.97	54.5			79.9	14.3	5.8	
3423	54'02" 35'01"	33	ol gray sS	.115	1.71	24.2		1.17	77.6	15.3	7.1	
3424	55'42" 32'03"	32	gr bl sS	.101	1.88	4.5		5.56	78.6	18.1	3.3	
3425	58'46" 31'18"	19	gr bl S	.074	1.13	5.0		1.99	81.8	13.7	4.5	
	Lat 34°											
3426	01'12" 33'15"	9	ol gray sS	.074	1.15			1.63	75.2	13.8	4.0	7.0
	Lat 33°											
3446	48'49" 24'43"	12.5	bl S	.803	ND	1.7		1.60	100			
3447	49'38" 24'58"	50	ol gray sS	.064	1.37	7.0		3.92	52.8	44.8	2.4	
3448	54'22" 28'20"	21	gr bl sS	.070	1.27			1.60	64.1	31.2	4.7	
3449	54'18" 29'30"	27.5	ol gray Ss	.061	1.61			2.50	49.0	43.9	7.1	
3450	54'13" 30'42"	31	ol gray Ss	.049	1.35	1.6			32.2	62.8	5.0	

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SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3451	54'08" 31'52"	33	gr bl sS	.345	3.72	15.5			72.2	23.6	4.2	
3453	53'58" 34'15"	43.3	gr bl sS	.145	1.94	54.8		1.11	78.8	15.3	5.9	
3454	54'57" 34'20"	134	ol gray Ss	.030	2.95	11.3			17.2	61.7	21.1	
3455	54'52" 35'30"	133.3	ol gray Ss	.044	3.23				35.0	46.7	18.3	
3456	53'53" 35'26"	43.3	gr bl sS	.065	2.19	41.6			48.7	38.7	9.0	3.6
3457	52'54" 35'19"	42	gr bl sS	.070	2.42	44.3			51.0	35.9	8.3	4.8
3458	52'59" 34'08"	43.3	ol gray sS	.070	1.52	27.5			61.1	30.4	8.5	
3460	53'08" 31'47"	32	gr bl sS	.113	2.36	3.0			69.5	23.3	7.2	
3461	53'12" 30'35"	31	ol gray sS	.072	3.30	13.5			52.5	45.5	2.0	
3462	53'19" 29'24"	31	ol gray Ss	.061	1.42	4.9			48.8	43.5	7.7	
3463	53'23" 28'13"	28	gr bl S	.082	1.18	4.2			80.5	15.4	4.1	
3464	52'28" 28'07"	40	gr bl Ss	.053	1.32	26.5			34.7	60.2	5.1	
3465	52'18" 29'18"	36	gr bl Ss	.048	2.02				43.7	50.8	5.5	
3466	52'12" 30'28"	34	gr bl sS	.075	2.12	37.0			54.8	32.6	9.3	3.3
3467	52'08" 31'41"	37.5	ol gray sS	.070	1.68	32.7			56.8	35.9	7.3	
3468	52'04" 32'52"	60	gr bl Ss	.053	1.56			1.90	35.9	52.2	7.2	4.7

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SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	SO	% CaCO$_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3469	47'21" 30'42"	143	gr bl s	.012	2.89				12.7	63.3	24.0	trace
3470	51'53" 32'38"	39	gr bl Ss	.085	2.98	36.4			57.2	37.5	5.3	
3471	51'28" 35'15"	46	ol gray GsS	.195	ND	62.5			59.1	9.7	3.8	27.4
3472	51'28" 37'20"	150	ol gray Ss	.056	1.61	16.1			43.7	43.0	13.1	
3473	52'54" 34'38"	41	ol gray Ss	.061	1.54	23.5		3.53	49.0	43.9	7.1	
3474	53'50" 33'55"	41	ol gray GsS	.108	2.60	30.8			52.6	18.8	7.6	21.0
3475	55'05" 27'10"	10	gr bl S	.083	1.29	3.8		4.74	87.0	9.2	3.8	
3476	50'37" 27'47"	44	gr bl Ss	.045	2.05	7.2		3.99	33.1	61.5	5.4	
3477	48'37" 25'32"	31	gr bl Ss	.048	1.28	11.6		2.16	24.9	70.4	4.7	
3478	54'33" 27'07"	12	gr bl S	.075	1.19	2.6		2.61	83.2	6.4	4.2	6.2
3479	55'05" 26'25"	6	gr bl S	.090	1.59	3.7			80.4	15.4	4.2	
3480	55'10" 26'56"	7	gray S	.430	1.27	1.3		8.79	99.0	1.0		
3481	55'37" 26'49"	7.5	gr bl Ss	.044	1.38			4.58	23.9	68.6	7.5	
3482	55'33" 27'30"	12	gr bl S	.999	1.98	19.3			88.7	9.1	2.2	
3483	55'01" 27'29"	14	gr bl S	.103	1.28	3.0		3.36	87.1	9.7	3.2	
3484	55'05" 27'17"	15	ol gray S	.082	1.23			1.31	87.9	8.7	3.4	

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SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3485	53'36" 27'35"	20	ol gray S	.090	1.43			0.95	83.7	13.1	3.2	
3486	54'50" 28'03"	17	ol gray sS	.079	1.25	16.9		1.13	73.9	22.6	3.5	
3487	55'43" 28'00"	14	ol gray S	.099	1.33	4.9		3.00	84.8	11.2	4.0	
3488	56'07" 28'30"	16	ol gray S	.080	1.21	3.4		2.42	83.9	12.3	3.8	
3489	54'40" 28'37"	23	ol gray Ss	.052	1.36			1.09	35.6	58.9	5.5	
3490	53'09" 27'49"	25	ol gray S	.078	1.22	4.7		1.38	82.2	12.6	5.2	
3491	52'41" 28'04"	31	ol gray Ss	.055	1.66	6.2		1.66	42.7	51.2	6.1	
3492	54'30" 29'11"	26	ol gray sS	.067	1.37	5.6		2.89	56.0	31.3	12.7	
3493	56'24" 29'01"	17	ol gray sS	.077	1.33	5.0			68.8	23.3	7.9	
3494	56'42" 29'30"	19	ol gray sS	.076	1.15	5.8		2.05	76.1	15.5	8.4	
3495	56'58" 30'00"	21	ol gray sS	.070	1.34			1.26	61.8	32.4	5.8	
3496	54'21" 29'46"	28	gr bl Ss	.042	1.89			4.28	23.3	71.2	5.5	
3497	54'11" 30'18"	31	gr bl Ss	.061	1.71	5.3			48.8	45.4	5.8	
3498	52'14" 28'16"	42	ol gray Ss	.056	1.83	6.3		3.29	43.4	48.3	8.3	
3499	49'22" 24'33"	13.5	r S	1.460	1.19	2.3	.0675	4.40	88.5	0.9	0.1	10.5
3500	47'26" 26'08"	21	gr bl GS	.475	ND	64.8			52.6	8.6	2.6	36.2

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SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3501	44'40"		not									
	47'00"	488	analyzed									
3527	49'21"											
	36'04"	140	gr bl sS	.094	1.54	20.3			77.0	13.4	9.6	
3528	50'28"											
	35'03"	85	gr bl sS	.072	1.36	18.6		4.52	64.0	29.6	6.4	
3529	53'06"											
	28'57"	30	gr bl Ss	.059	1.52			7.55	46.6	43.7	9.7	
3530	51'54"											
	29'54"	34		---	---	46.8						
3531	49'42"											
	30'02"	74	gr bl s	.032	1.98	11.9			2.1	80.2	17.2	
3532	47'22"											
	26'08"	21	r bl S	.415	1.32	82.2	0.240	2.41	94.8	2.2	0.3	2.7
3533	46'19"											
	27'04"	34	ol gray sS	.071	1.37	20.9		2.15	62.4	30.3	7.3	
3539	54'18"											
	33'18"	44										
	52'16"											
	31'44"	37	gr bl R & G	---	---							
3539	54'18"											
	33'18"	44	sS	.147	2.20				77.6	17.1	5.3	
3540	51'34"											
	32'29"	40										
	53'11"											
	32'22"	31	R & G	---	---							
3541	54'28"											
	31'46"	33										
	54'28"											
	33'18"	54	R & G	---	---							

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SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% CaCO$_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3542	54'00"											
	34'42"	42										
	57'07"											
	31'23"	31	R & G	---	---							
3543	50'54"											
	35'21"	85										
	51'30"											
	34'34"	42	R & G	---	---							
3544	51'30"											
	34'34"	42										
	53'03"											
	33'03"	33	R & G	---	---							
3545	56'32"											
	32'28"	37	ol gray S	.123	1.64	4.5			89.5	6.8	3.7	
3546	48'57"											
	25'55"	43	ol gray Ss	.059	2.22	10.4		2.72	47.6	46.9	5.5	
3547	48'20"											
	25'22"	25	ol gray sS	.073	1.32				65.5	30.1	4.4	
3548	48'02"											
	26'23"	37	ol gray Ss	.059	1.38	14.8			42.1	49.2	8.7	
3551	42'05"		not									
	19'46"	23	analyzed									
3552	42'00"		not									
	19'30"	26	analyzed									
3553	42'12"		not									
	00'00"	24	analyzed									
3554	41'48"		not									
	20'17"	37	analyzed									
3555	41'42"		not									
	19'38"	33	analyzed									
3556	41'55"		not									
	19'57"	29	analyzed									

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SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% CaCO$_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3557	42'00"		not									
	20'13"	30	analyzed									
3558	41'44"		not									
	19'58"	34	analyzed									
3559	41'31"		not									
	20'12"	83	analyzed									
3560	41'30"		not									
	19'42"	35	analyzed									
	Long 117°											
3561	36'52"		not									
	58'15"	10	analyzed									
3563	36'55"		not									
	58'28"	10	analyzed									
3564	37'03"		not									
	58'35"	10	analyzed									
	Lat 118°											
3619	42'03"		not									
	19'07"	22	analyzed									
3625	51'33"		not									
	18'58"	27	analyzed									
3626	41'32"		not									
	19'02"	31	analyzed									
	Lat 117°											
3632	36'55"		not									
	58'12"	9.5	analyzed									
3633	36'58"		not									
	58'24"	9.5	analyzed									
3640	36'23"		not									
	56'36"	7.5	analyzed									
	Lat 118°											
3641	55'11"											
	33'03"	59	sS	.210	2.85				76.6	13.2	7.2	

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SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% CaCO$_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3642	55'57" 32'48"	50	0-4" ol gray SG	ND	ND				68.8	24.6	6.6	
3642	55'57" 32'48"	50	4-10" ol gray Ss	.060	1.66				48.9	41.7	9.9	4.5
3642	55'57" 32'48"	50	10-16" ol gray sS	.065	1.69				53.2	41.9	4.9	
3642	55'57" 32'48"	50	16-25" ol gray s	.025	2.81				19.6	69.2	11.2	
3644	Lat 34° 00'08" 32'57"	6	Ss	.058	1.42				44.6	51.0	4.4	
3645	Lat 33° 55'50" 33'03"	80	0-6" ol gray sS	.089	1.52				75.5	17.1	6.8	
3645	55'50" 33'03"	80	6-12" ol gray sS	.097	1.54				79.7	14.6	5.7	
3645	55'50" 33'03"	80	12-18" ol gray sS	.087	1.49				74.1	21.1	4.7	
3645	55'50" 33'03"	80	18-24" * ol gray sS	.108	1.61				76.7	17.9	5.4	
3645	55'50" 33'03"	80	24-29" ol gray sS	.110	1.71				73.7	18.8	7.5	
3645	55'50" 33'03"	80	29-35" ol gray s	.025	2.92				18.4	65.3	16.3	
3645	55'50" 33'03"	80	35-41" ol gray s	.016	2.41				8.1	81.7	11.2	
3645	55'50" 33'03"	80	41-47" ol gray s	.025	2.75				16.9	64.3	18.8	
3645	55'50" 33'03"	80	47-53" s	ND	ND							

* From 0-24" layers and patches of shell fragments were observed.

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SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% CaCO$_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3646	55'40" 33'20"	77	0-6" ol gray sS	.073	1.71				62.1	26.9	11.0	
3646	55'40" 33'20"	77	6-12" ol gray sS	.081	1.42				71.7	23.3	5.0	
3646	55'40" 33'20"	77	12-18" ol gray sS	.082	1.32				74.9	19.5	5.6	
3646	55'40" 33'20"	77	18-24" ol gray sS	.085	1.64				70.5	23.2	6.3	
3646	55'40" 33'20"	77	24-30" ol gray sS	.083	1.50				72.9	19.3	7.8	
3646	55'40" 33'20"	77	30-36" ol gray sS	.084	1.34				77.0	19.9	4.1	
3646	55'40" 33'20"	77	36-42" ol gray sS	.077	1.56				67.5	27.6	4.9	
3646	55'40" 33'20"	77	42-48" ol gray Ss	.053	3.24				47.0	36.5	16.5	
3646	55'40" 33'20"	77	48-55" * ol gray sS	.069	1.63				56.5	40.4	3.1	
3647	55'36" 33'31"	107	0-6" ol gray Ss	.044	2.42				35.5	52.5	12.0	
3647	55'36" 33'31"	107	6-12" ol gray Ss	.051	2.39				42.5	44.4	13.1	
3647	55'36" 33'31"	107	12-18" ol gray sS	.064	1.93				52.2	40.4	7.4	
3647	55'36" 33'31"	107	18-24" ol gray Ss	.052	2.45				44.6	46.9	8.5	
3647	55'36" 33'31"	107	24-30" ol gray sS	.063	2.28				51.6	40.0	8.4	
3647	55'36" 33'31"	107	30-36" ol gray Ss	.058	2.65				48.6	41.4	10.0	

* Shell fragments were found at the bottom of the core.

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SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% CaCO$_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3647	55'36" 33'31"	107	36-42" ol gray Ss	.056	2.41				47.1	45.7	7.2	
3647	55'36" 33'31"	107	42-48" ol gray sS	.063	2.12				51.1	41.9	7.0	
3647	55'36" 33'31"	107	48-54" ol gray sS	.063	2.16				50.9	41.3	7.8	
3647	55'36" 33'31"	107	54-60" ol gray sS	.068	1.69				57.3	32.4	10.3	
3647	55'36" 33'31"	107	60-68" * ol gray sS	.066	1.88				52.8	39.8	7.4	
3648	55'28" 33'42"	120	0-6" ol gray sS	.067	1.96				55.8	32.7	11.5	
3648	55'28" 33'42"	120	6-12" ol gray sS	.071	1.86				59.8	31.1	9.1	
3648	55'28" 33'42"	120	12-18" ol gray sS	.072	1.98				59.9	31.5	8.6	
3648	55'28" 33'42"	120	18-24" ol gray sS	.083	1.84				60.0	28.7	11.3	
3648	55'28" 33'42"	120	24-30" ol gray sS	.074	2.57				58.9	26.7	14.4	
3648	55'28" 33'42"	120	30-36" ol gray Ss	.058	2.65				48.5	36.5	15.0	
3648	55'28" 33'42"	120	36-42" ol gray sS	.080	1.76				57.8	29.6	12.6	
3648	55'28" 33'42"	120	42-48" ** ol gray sS	.070	1.76				59.2	28.9	11.9	
3678	49'44" 24'55"	92	gr bl Ss	.042	2.74	10.9			37.2	59.0	13.8	

* No layers and laminations were observed in any section of the core.

** No layers or laminations were observed in this core.

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SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% CaCO$_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3679	51'42" 24'33"	35	gr bl S	.082	1.22				100			
3680	51'40" 25'45"	17	bl S	.116	1.89	3.1			93.1	3.3	3.6	
3681	51'33" 26'54"	35	gr bl sS	.075	1.47	5.2			66.6	27.6	5.8	
3682	51'24" 28'08"	40	not analyzed									
3683	51'17" 29'24"	59	ol gray s	.040	1.89				18.3	70.0	11.7	
3684	50'18" 29'25"	69	ol gray s	.035	2.33				13.3	71.4	15.3	
3685	50'13" 30'36"	67	ol gray s	.027	2.49				5.0	78.4	16.6	
3686	51'13" 30'36"	54	ol gray s	.036	2.25				8.0	79.1	12.9	
3687	51'08" 31'52"	41	ol gray sS	.160	2.96				70.8	13.1	6.3	7.8
3688	51'02" 33'03"	43	ol gray sS	.094	1.79	42.3			70.6	21.4	7.0	
3689	52'01" 33'28"	40	gr bl sS	.102	3.20				65.8	19.2	5.0	
3690	52'08" 32'16"	39	gr bl Ss	.056	1.66				45.6	47.8	6.6	4.0
3691	52'12" 31'04"	36.5	gr bl sS	.026	3.16				20.4	57.3	22.3	
3692	52'18" 29'48"	32	S	.360	1.23				100			
3693	59'29" 29'25"	6.5	not analyzed									
3694	59'23" 31'51"	10	ol gray S	.082	1.26	4.5			86.1	10.4	3.5	

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SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3695	59'18" 31'50"	18.5	gr bl S	.092	1.22	4.3			81.9	11.3	4.8	
3696	59'13" 33'03"	25	not analyzed									
3697	59'10" 34'16"	30.5	bl Ss	.080	1.81			69.9	26.6	3.5		
3698	58'07" 34'53"	58	not analyzed									
3699	58'12" 33'29"	32	ol gray S	.160	2.68	3.6			82.1	14.4	3.5	
3700	58'16" 32'17"	28	bl sS	.074	1.57				65.2	27.9	6.9	
3701	58'20" 30'05"	21	gr bl sS	.079	1.27				76.0	18.7	5.3	
3702	58'25" 29'51"	13.5	ol gray S	.285	3.16	5.2			85.7	10.4	3.9	
3703	58'31" 28'40"	7	not analyzed									
3704	57'35" 27'42"	7	gr bl S	.168	1.31	3.3			100			
3705	57'28" 28'56"	12	ol gray S	.097	1.49	4.2			85.3	10.5	4.2	
3706	57'23" 30'10"	19	not analyzed									
3707	57'18" 31'23"	25	gr bl sS	.075	1.48	5.1			65.8	28.8	5.4	
3708	57'12" 32'36"	31	gr bl S	.139	1.71				86.6	10.9	2.5	
3709	57'08" 33'50"	55.5	gr bl S	.181	1.44	3.2			93.1	4.3	2.6	
3710	57'03" 35'02"	86	ol gray Ss	.051	2.29				44.4	41.7	14.9	

APPENDIX TO CRUISES

SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3711	55'58" 35'35"	119	ol gray s	.027	2.42				12.9	73.8	13.3	
3712	56'03" 34'20"	97	ol gray sS	.064	1.50				51.9	36.7	11.4	
3713	56'08" 33'07"	45	gr bl GS	.291	1.48	4.2			69.4	5.5	2.2	22.9
3714	56'13" 31'58"	30	gr bl S	.089	1.30				85.8	11.0	3.2	
3715	56'19" 30'32"	26	gr bl sS	.088	2.05	2.9			71.0	24.5	4.5	
3716	56'25" 29'30"	20	ol gray sS	.080	1.36	4.7			74.3	20.8	4.9	
3717	56'30" 28'18"	12.5	ol gray S	.520	1.82				90.9	6.8	2.3	
3718	56'35" 27'03"	5	r S	.390	1.24	1.9			100			
3719	56'02" 27'28"	9.5	ol gray sS	.115	3.44				72.4	21.4	4.2	
3720	55'36" 26'32"	6.5	bl sS	.070	1.53				59.0	35.1	5.9	
3721	55'31" 27'45"	13.5	gr bl S	.105	1.52	6.4			85.4	11.3	3.3	
3780	55'57" 28'40"	17.5	gr bl sS	.077	1.36				71.8	24.5	3.7	
3781	55'25" 28'57"	21	gr bl sS	.064	1.51				51.7	43.3	5.0	
3782	54'57" 28'13"	19	gr bl S	.082	1.24				81.4	14.9	3.7	
3783	55'02" 27'01"	11	gr bl S	.092	1.43				88.7	9.9	1.4	
3784	54'31" 27'15"	12.5	bl S	.093	1.20				92.3	5.6	2.1	

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SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3785	54'03" 26'43"	11	ol gray S	.091	1.22				100			
3786	53'02" 26'48"	14	gr bl S	.087	1.26				86.2	10.2	3.6	
3787	53'36" 25'35"	6	gr bl S	.090	1.21				100			
3788	52'39" 24'55"	6.5	ol gray S	.094	1.44				100			
3789	52'34" 26'08"	15	ol gray S	.090	1.19				92.1	5.3	2.6	
3790	52'28" 27'22"	26.5	ol gray sS	.073	1.45				66.0	27.7	6.3	
3791	53'25" 28'02"	25	bl sS	.085	1.27				77.3	15.0	7.7	
3792	53'56" 27'55"	20	ol gray sS	.084	1.31				78.5	14.9	7.6	
3793	54'26" 28'28"	23	gr bl Ss	.060	1.61				48.3	41.3	10.4	
3794	54'55" 29'24"	25	gr bl Ss	.051	1.93				41.4	47.3	11.3	
3795	55'21" 30'10"	27	ol gray Ss	.050	1.49				36.0	58.6	5.4	
3796	55'51" 29'52"	24.5	ol gray Ss	.051	1.54				38.3	55.5	6.2	
3797	55'16" 31'22"	31	gr bl sS	.085	3.09				56.0	30.8	5.2	8.0
3798	55'09" 32'34"	35.5	gr bl sS	.300	ND				71.9	24.0	4.1	
3799	54'10" 32'08"	34	ol gray S	.480	ND				82.3	14.4	3.3	
3800	54'15" 30'55"	32	ol gray Ss	.058	2.63				45.9	46.7	5.6	1.8

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SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3801	54'21" 29'43"	28	gr bl Ss	.048	1.45				31.5	63.1	5.4	
3802	53'53" 29'06"	27	ol gray sS	.058	1.45	5.7			54.4	39.6	6.0	
3803	53'22" 29'15"	30	gr bl Ss	.046	1.32				23.3	71.0	5.7	
3804	52'22" 28'37"	40	gr bl Ss	.044	1.37				26.2	68.0	5.8	
	Lat 34°											
3848	01'22" 34'53"	11	gr bl sS	.075	1.27	4.8			68.6	26.9	4.5	
3849	01'08" 35'25"	12.5	gr bl sS	.080	1.49				68.9	27.0	4.1	
3850	01'44" 35'04"	7	not analyzed									
3851	00'43" 35'15"	13	bl sS	.076	1.45				65.7	27.7	6.6	
3852	00'14" 35'16"	20	ol gray Ss	.057	1.53	6.1			45.7	47.2	7.1	
	Lat 33°											
3853	59'43" 35'14"	27	gr bl Ss	.058	1.45	6.2			45.5	47.8	6.7	
3854	59'12" 35'13"	34.5	gr bl sS	.076	1.33				68.8	26.0	5.2	
3855	58'43" 35'13"	55	not analyzed									
3856	58'15" 35'13"	67	not analyzed									
3857	57'43" 35'12"	80	not analyzed									
3858	57'14" 35'11"	90	not analyzed									

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SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3859	57'33" 34'42"	71	not analyzed									
3860	57'52" 34'15"	48	not analyzed									
3861	58'09" 33'45"	33	bl S	.580	2.57				81.8	15.0	3.2	
3862	58'46" 32'47"	27	bl Ss	.061	1.49				48.6	45.0	6.4	
3863	59'23" 31'48"	17	bl sS	.081	1.35				71.7	22.7	5.6	
3864	59'58" 30'48"	9	not analyzed									
3865	56'12" 28'53"	17	gr bl sS	.073	1.31				66.9	27.4	5.7	
3866	55'10" 27'04"	10.5	bl sS	.063	1.55				50.4	42.5	7.1	
3867	55'00" 27'40"	15	gr bl sS	.085	1.31				75.6	18.9	5.5	
3868	54'47" 28'13"	20	ol gray sS	.074	1.43				64.3	30.4	5.3	
3869	54'27" 29'18"	26.5	not analyzed									
3870	53'42" 31'33"	31.5	gr bl GsS	.250	ND	10.0			56.0	22.6	5.8	15.5
3871	52'16" 30'38"	35	bl sS	.064	1.70	25.7			52.8	41.6	5.6	
3872	51'36" 29'32"	52.5	gr bl s	.038	1.68				3.9	83.1	13.0	
3873	51'11" 28'40"	61.5	not analyzed									
3874	50'06" 26'38"	43	not analyzed									

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SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3875	49'18" 25'10"	25	bl sS	.071	1.40	8.0			60.3	34.2	5.5	
3876	48'46" 24'07"	9	bl S	.540	1.33	3.1			100			
3898	41'56" 19'25"	26	not analyzed									
3899	42'03" 19'50"	27	not analyzed									
3900	42'10" 20'06"	27	not analyzed									
3901	42'18" 20'21"	28	not analyzed									
3902	42'26" 20'36"	26	not analyzed									
3903	42'33" 20'51"	27	not analyzed									
3904	42'42" 21'06"	27.5	not analyzed									
3905	42'49" 21'22"	27	not analyzed									
3906	42'58" 21'37"	29	not analyzed									
3907	43'04" 21'53"	29	not analyzed									
	Lat 34°											
3952	01'53" 40'08"	6	gr bl sS	.082	1.22	6.4			77.6	16.8	5.6	
3953	00'45" 41'07"	24	ol gray Ss	.043	1.69	7.0			25.3	67.8	6.9	
3954	01'22" 41'09"	14.9	gr bl sS	.078	1.51	6.7			65.5	26.6	7.9	

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SEDIMENTS

SANTA MONICA BAY

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3955	59'54" 41'06"	33.5	gr bl Ss	.049	1.98	8.0			37.8	48.8	13.4	
3956	59'00" 41'08"	81	gr bl Ss	.054	1.83	8.0			43.2	43.0	13.8	
3957	57'43" 41'01"	169	gr bl Ss	.036	2.84	12.0			24.9	57.8	17.3	
3958	56'34" 41'02"	200	gr bl s	.026	3.02				5.7	70.8	23.5	
3959	55'33" 41'04"	219	ol gray s	.024	3.02	11.9			9.9	68.9	21.2	
3960	53'58" 39'53"	246	ol gray Ss	.057	4.04	11.2			40.2	29.7	22.1	
3961	53'18" 38'40"	145	gr bl sS	.076	1.61	16.0			63.4	20.6	16.0	
3962	52'07" 38'23"	140	ol gray sS	.123	2.07	14.6			73.9	15.6	10.5	
3963	50'55" 38'12"	230	gr bl Ss	.043	2.82	12.9			27.2	56.0	16.8	
3964	49'39" 37'27"	270	gr bl s	.017	4.05	13.7			7.6	61.5	30.9	
3965	48'25" 35'22"	274	gr bl s	.009	4.87	14.6			3.3	57.4	39.3	

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SEDIMENTS

NEWPORT

Station No.	Lat 33° Long 117°	Depth fms.	Sed type	MD	So	% CaCO$_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3401	37'00" 58'19.2"	9.5	dk gray S	.176	1.24				92.9	4.2	2.3	
3402	36'49.8" 58'27.6"	10	dk gray S	.107	1.21				94.8	2.8	2.4	
3403	37'7.2" 58'56.4"	10.5	dk gray S	.100	1.25				90.1	7.8	2.1	
3404	36'34.2" 57'59.4"	10.5	dk gray S	.120	1.30				98.0	0.1	1.9	
3405	37'00" 58'46.2"	12.5	dk gray S	.078	1.19				89.5	7.3	3.2	
3406	36'44.4" 58'18.6"	14	dk gray S	.078	1.19	3.5			89.5	7.3	3.2	
3407	36'28.2" 58'48"	16	dk gray S	.076	1.19				83.1	12.7	4.2	
3408	36'10.8" 58'18.6"	21	dk gray S	.080	1.20	4.2			85.4	10.2	4.4	
3409	35'53.4" 57'49.8"	24	dk gray sS	.072	1.25				70.8	23.1	6.1	
3561	36'52" 58'15"	10	gray S	.120	1.26				100			
3563	36'55" 58'28"	10	gray S	.109	1.30				100			
3564	37'03" 58'35"	10	gray S	.102	1.39	2.0			100			
3565	37'05" 58'42"	9.5	gray S	.100	1.15	2.6			100			
3566	37'10" 58'56"	9.5	gray sS	.077	1.27				74.1	23.1	2.8	
3567	36'12" 58'07"	9.5	gray S	.128	1.23	1.5			100			

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SEDIMENTS

NEWPORT

Station No.	Lat 33° Long 117°	Depth fms.	Sed type	MD	So	% CaCo$_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3568	36'50" 58'01"	8.5	gray S	.138	1.25	2.1			100			
3569	36'02" 58'57"	16.5	dk gray sS	.076	1.30	5.5			71.6	22.2	6.2	
3632	36'55" 58'12"	9.5	dk gray S	.187	1.21				100			
3633	36'58" 58'24"	9.5	gray S	.105	1.27				100			
3634	36'52" 57'59"	9.5	dk gray S	.125	1.48	2.5			100			
3635	36'48" 57'33"	9	gray S	.140	1.33				100			
3636	36'42" 57'33"	9	dk gray S	.128	1.29				100			
3638	36'33" 57'03"	8	dk gray S	.160	1.23	1.4			100			
3639	36'28" 56'50"	7.5	gray S	.155	1.28	2.0			100			
3640	36'23" 56'36"	7.5	dk gray S	.160	1.28	1.6			100			
3666	37'02" 58'10"	8.5	dk gray S	.161	1.31	1.7			100			

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SEDIMENTS

WHITES POINT

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% CaCO$_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3551	42'05" 19'46"	23	gr bl Ss	.052	2.22	13.1			41.1	49.4	9.5	
3552	42'00" 19'30"	26	gr bl Ss	.060	1.90				47.5	45.4	7.1	
3553	42'12" 00'00"	24	bl Ss	.043	2.29	19.0			35.1	48.4	16.5	
3554	41'48" 20'17"	37	gr bl Ss	.053	1.76	11.9			39.0	54.7	6.3	
3555	41'42" 19'38"	33	gr bl Ss	.056	2.25				43.8	44.8	11.4	
3556	41'55" 19'57"	29	gr bl Ss	.054	1.84	10.2			41.2	49.4	9.4	
3557	42'00" 20'13"	30	gr bl Ss	.057	1.82				41.8	54.6	3.6	
3558	41'44" 19'58"	34	gr bl Ss	.050	2.07	7.9			38.9	49.1	12.0	
3559	41'31" 20'12"	83	gr bl Ss	.036	3.19	9.4			27.4	57.5	15.1	
3560	41'30" 19'42"	35	gr bl Ss	.051	2.40	8.4			40.9	50.4	8.7	
3619	42'03" 19'07"	22	ol gray Ss	.048	2.48	12.2			43.5	45.0	11.5	
3620	41'49" 19'14"	29	gr bl Ss	.035	2.49	4.9			22.1	65.1	12.8	
3621	41'36" 19'18"	34	ol gray Ss	.049	1.98	9.6			37.2	51.0	11.8	
3622	41'24" 19'32"	55	gr bl s	.029	2.36	9.7			20.1	75.6	4.3	
3623	41'57" 18'50"	21.5	ol gray sS	.068	2.11	12.1			53.1	41.2	5.7	
3625	51'33" 18'58"	27	gr bl sS	.055	1.87	12.0			43.7	45.6	10.7	

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SEDIMENTS

WHITES POINT

Station No.	Lat 33° Long 118°	Depth fms.	Sed type	MD	So	% $CaCO_3$	% Org. C.	% Heavies	% Sand	% Silt	% Clay	% Gravel
3626	41'32" 19'02"	31	gr bl Ss	.042	1.87	9.6			29.9	64.4	5.7	
3627	41'17" 19'18"	40	gr bl Ss	.060	1.87	8.8			48.5	40.0	11.5	
3628	42'05" 19'50"	24	gr bl Ss	.037	2.80	11.6			30.4	55.4	14.2	
3651	41'52" 20'05"	30	gr bl Ss	.046	2.11	11.2			38.6	48.4	13.0	
3652	42'05" 19'52"	26	gr bl Ss	.061	2.11				49.8	39.6	10.6	
3653	42'27" 20'27"	23	gr bl sS	.810	2.74	13.3			63.4	29.3	7.3	

APPENDIX TO CRUISES

SEDIMENTS

ROCKS IN PLACE

Station No.	Rock Type		Age
2725	Dark gray siltstone		Miocene (?)
	Gray shale		Miocene (?)
	Black chert, white surface alteration		Miocene (?)
3232	Siliceous shale		Miocene (?)
3257	Laminated shale		Miocene (?)
	Gray siltstone		Miocene (?)
3268A	Siliceous shale		Miocene (?)
	Gray shale		Miocene (?)
	Sandstone		Miocene (?)
	Black chert, white surface alteration		Miocene (?)
3268B	Sandstone		Miocene (?)
3268C	Mica schist	Basement ?	Jurassic (?)
		Fragment of breccia?	Miocene (?)
3268E	Black shale		Miocene (?)
3274B	Siliceous shale		Miocene (?)
	Black chert, white surface alteration		Miocene (?)
3274C	Black chert, white surface alteration		Miocene (?)
	Siliceous shale		Miocene (?)
3274D	Siliceous shale		Miocene (?)
	Black chert, white surface alteration		Miocene (?)
	Gray mudstone		Miocene (?)
3282	Black chert, white surface alteration		Miocene (?)
	Siliceous shale		Miocene (?)
3284	Siliceous shale		Miocene (?)
	Black chert, white surface alteration		Miocene (?)
3285	Gray shale		Miocene (?)
	Black chert, white surface alteration		Miocene (?)
3372	Siliceous shale		Miocene (?)
3389	Mudstone		Miocene (Mohnian?) Contained the following Foraminifera: Epistominella capitanensis Bolivina decurtata Uvigerina hootsi
	Siliceous shale		Miocene (?)
3542	Siliceous shale		Miocene (?)

APPENDIX TO CRUISES

SEDIMENTS

ROCKS IN PLACE

Station No.	Rock Type	Age
3544	Gray shale	Miocene (?)
	Light yellow sandstone	Miocene (?)
4321	Dark gray mudstone	U. Miocene (L. Mohnian) Contained the following Foraminifera: Epistominella gyroidinaformis Cibicides illingi Eponides multicamerata Baggina robusta Bolivina ticensis Eponides rosaformis Epistominella capitanensis Bolivina decurtata Uvigerina hootsi
	Dark gray shale containing phosphorite granules	Miocene (?)
	White limestone	Miocene (?)
	Siliceous shale	Miocene (?)
4323	Siliceous shale	Miocene (?)

APPENDIX TO CRUISES

SEDIMENTS

ROCKS IN PLACE

Station No.*	Lat 33° Long 118°	Sampling Device	Rock Type	Age
27	48'24" 29'00"	D	Dark gray, crystalline limestone	Miocene (?)
			Gray rhyolite, high quartz content	Miocene (?)
29	49'06" 31'30"	C	Grayish-brown diatomaceous limestone	Miocene (?)
30	48'24" 31'42"	D	Gray mudstone	L. U. Miocene Miocene Foraminifera
31	48'12" 30'12"	D	Dark gray diatomaceous mudstone	L. U. Miocene Miocene Foraminifera and Miocene Diatoms
			Dark gray limestone	Miocene (?)
32	53'42" 34'24"	D	Pilitic, aphitic basalt	Miocene (?)
			Porphyritic andesite	Miocene (?)
			Diatomaceous mudstone	Miocene (?)
			Gray-brown crystalline limestone	Miocene (?)
			Cherty white limestone	Miocene (?)
			Black bituminous limestone	Miocene (?)
			Black chert, white surface alteration	Miocene (?)
33	55'00" 33'12"	D	Quartz, from pegmatite	?
			Fine grained rhyolite	Miocene (?)
			Black slate, fine cleavage	Miocene (?)
			Dark gray meta-sandstone	Miocene (?)
			Yellow tuffaceous shale with chert bands	Miocene (?)
			Gray limestone, chert enclosed	Miocene (?)
			Black chert, white surface alteration	Miocene (?)
34	55'00" 34'36"	D	Yellow-gray sandy shale	L. U. Miocene Miocene Foraminifera
			Green-gray, finely crystalline limestone	Miocene (?)
			Gray limestone concretions with calcite core	?
35	54'30" 36'18"	D	Finely crystalline limestone	Miocene (?)
36	59'00" 39'36"	D	Cherty compact shale	Miocene (?)

* After Emery and Shepard, 1945.

APPENDIX TO CRUISES

SEDIMENTS

TRANSPORTED ROCKS

Station No.	Lat 33° Long 118°	Sampling Device	Rock Type
2725	previously given		Mica schist, granite, gneiss, quartzite
3257	previously given		Mica schist
3268A	previously given		Mica schist, sandstone
3268B	previously given		Sandstone
3274B	previously given		Mica schist
3274C	previously given		Granodiorite
3274D	previously given		Mica schist
3282	previously given		Granite gneiss, diorite, mica schist
3284	previously given		Granite gneiss, diorite
3285	previously given		Granite gneiss
3327	previously given		Granodiorite, mica schist, sandstone
3394	previously given		Diorite, granite gneiss, granodiorite
3544	previously given		Mica schist
28*	48'12" 29'06"	D	Granite
33*	53'42" 34'24"	D	Granite
35*	54'30" 36'18"	D	Granite

* After Emery and Shepard, 1945.

APPENDIX TO CRUISES

SEDIMENTS

ABBREVIATIONS USED IN SEDIMENT SECTION

Sediments:

Type

G = Gravel, gravelly
R = Rock
s = Silt, silty
S = Sand, sandy

Color

bl = Black
br = Brown
dk = dark
gr = Green
gray = Gray
lt = light
ol = Olive
r = Red

Gear:

C = Corer
D = Dredge

APPENDIX TO CRUISES

SEDIMENTS

Station No.	Depth of penetration of 1,000 lb. core barrel
3316	5"
3317	26"
3318	36"
3319	60"
3320	27"
3321	46"
3322	40"
3323	57"
3324	24"
3325	62"
3326	36"
3327	44"

HYDROGRAPHIC STATIONS
Santa Monica Bay

Station No.	Lat 33°	Long 118°	Bottle Depth (Feet)	Sigma t	Temp	Cl.	S
0905 6/18/55	See	BT		24.30	17.28	18.535	33.48
1004 6/18/55	"	"		24.24	19.11	18.26	32.99
1050 6/18/55	"	"		24.25	17.78	18.575	33.56
1113 6/18/55	"	"		24.38	16.94	18.525	33.47
1145 6/18/55	"	"		24.22	17.67	18.54	33.49
1215 6/18/55	"	"		23.95	18.33	18.46	33.35
1245 6/18/55	"	"		23.79	18.89	18.445	33.32
1315 6/18/55	"	"		23.89	18.89	18.515	33.45
1329 6/18/55	"	"		24.12	17.78	18.485	33.39
1348 6/18/55	"	"		24.12	17.78	18.48	33.39
1415 6/18/55	"	"		23.99	18.06	18.445	33.32
1445 6/18/55	"	"		23.89	18.89	18.515	33.45
1530 6/18/55	"	"		24.00	18.94	18.605	33.61
1615 6/18/55	"	"		24.19	17.78	18.54	33.49
3100 6/19/55	52'40"	27'51"	0	23.96	18.33	18.47	33.37
	"	"	27	24.73	14.79	18.44	33.30
	"	"	167	25.64	10.02	18.61	33.62
3101 6/19/55	50'11"	23'43"	0	24.16	17.67	18.49	33.40
	"	"	91	25.67	10.69	18.53	33.49
	"	"	181	26.08	9.66	18.67	33.73
3102 6/19/55	49'51"	24'55"	0	24.02	18.39	18.52	33.46
	"	"	72	25.61	11.02	18.54	33.48
	"	"	272	26.21	9.06	18.73	33.83
3103 6/19/55	49'37"	26'05"	0	24.03	18.22	18.50	33.42
	"	"	102	25.67	10.42	18.50	33.42
	"	"	482	26.49	8.49	18.86	34.07

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat 33°	Long 118°	Bottle Depth (Feet)	Sigma t	Temp	Cl.	S
3103 6/19/55	49'37"	26'05"	912	26.70	7.97	18.95	34.23
3104 6/19/55	49'17"	27'06"	0	24.09	18.06	18.52	33.45
"	"	"	100	25.63	10.65	18.49	33.42
"	"	"	561	26.53	8.47	18.88	34.11
"	"	"	1150	26.69	7.75	18.92	34.18
3105 6/19/55	48'46"	28'07"	0	24.15	18.06	18.56	33.53
"	"	"	99	25.46	11.28	18.46	33.35
"	"	"	699	26.63	8.37	18.94	34.22
"	"	"	1299	26.75	7.54	18.94	34.22
3106 6/19/55	48'14"	30'30"	0	24.15	18.33	18.61	33.61
"	"	"	70	25.43	12.02	18.54	33.48
"	"	"	900	26.68	8.25	18.97	34.27
"	"	"	1750	26.84	7.57	19.01	34.34
*3107 6/19/55	47'36"	32'54"	0	24.13	18.61	18.64	33.68
"	"	"	220?	25.90	9.77	18.59	33.58
"	"	"	1050?	26.65	8.19	18.94	34.21
"	"	"	1900?	26.96	6.15	18.96	34.25
**3108 6/19/55	49'45"	38'06"	0	24.07	18.94	18.66	33.71
"	"	"	250?	26.05	9.39	18.65	33.69
"	"	"	1200?	26.72	7.80	18.95	34.23
3109 6/19/55	51'42"	42'00"	0	24.17	18.89	18.72	33.82
"	"	"	350	26.19	8.96	18.70	33.78
"	"	"	950	26.61	8.85	18.98	34.29
"	"	"	2300	27.13	5.39	19.01	34.34

*Wire ∡ 25° Bottom at 1950' wire
**Wire ∡ 20° Wire 2250' out.

HYDROGRAPHIC STATIONS

Station No.	Lat 33°	Long 118°	Bottle Depth (Feet)	Sigma t	Temp	Cl.	S
3110 6/19/55	53'47"	41'12"	0	23.98	18.89	18.58	33.57
	"	"	350	26.14	9.26	18.69	33.77
	"	"	1050	26.68	8.04	18.95	34.22
	"	"	1800	26.91	6.77	18.98	34.29
3111 6/19/55	55'18"	38'45"	0	24.18	17.94	18.56	33.53
	"	"	214	25.96	9.69	18.62	33.63
	"	"	764	26.54	8.60	18.91	34.16
	"	"	1364	26.79	7.23	18.94	34.21
3112 4/19/55	55'30"	36'07"	0	24.34	17.22	18.55	33.51
	"	"	126	25.70	10.61	18.545	33.50
	"	"	626	26.44	8.66	18.85	34.04
	"	"	1076	26.70	7.89	18.95	34.22
3113 6/19/55	55'00"	33'48"	0	24.19	17.78	18.54	33.49
	"	"	130	25.66	10.71	18.53	33.47
	"	"	380	26.20	9.14	18.72	33.82
	"	"	660	26.53	8.58	18.90	34.14
3114 6/19/55	55'08"	32'00"	0	24.09	18.33	18.56	33.53
	"	"	113	25.64	10.96	18.55	33.50
	"	"	183	25.96	9.81	18.63	33.66
0845 6/20/55	See BT			23.74	18.78	18.39	33.22
0850 6/20/55	" "					18.34	33.13
0853 6/20/55	" "					18.02	32.56
0858 6/20/55	" "					18.02	32.56
0902 6/20/56	" "					18.46	33.35
0951 6/20/55	" "			23.48	16.94	17.88	32.30

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat 33°	Long 118°	Bottle Depth (Feet)	Sigma t	Temp	Cl	S
0954 6/20/55	See	BT				18.04	32.59
0958 6/20/55	"	"				17.94	32.41
1002 6/20/55	"	"				18.45	33.33
1005 6/20/55	"	"		23.98	18.33	18.48	33.39
1053 6/20/55	"	"				18.505	33.43
1057 6/20/55	"	"				18.48	33.39
1101 6/20/55	"	"				18.465	33.36
1105 6/20/55	"	"				18.47	33.37
1108 6/20/55	"	"				18.52	33.46
1239 6/20/55	"	"				18.42	33.28
1242 6/20/55	"	"				18.47	33.37
1245 6/20/55	"	"				18.495	33.41
3221 7/11/55	46'26"	25'23"	0	24.09	18.33	18.56	33.53
	"	"	50	25.23	12.89	18.51	33.44
	"	"	100	25.05	13.92	18.53	33.48
3222 7/11/55	46'30"	28'42"	0	24.12	18.36	18.59	33.58
	"	"	126	25.62	11.00	18.54	33.49
	"	"	396	26.27	8.87	18.74	33.86
	"	"	706	26.55	8.47	18.90	34.14
3223 7/11/55	48'27"	31'11"	0	24.07	18.61	18.60	33.60
	"	"	100	25.56	11.33	18.54	33.49
	"	"	550	26.33	8.49	18.74	33.86
	"	"	980	27.44	7.84	18.91	34.16
3224 7/11/55	48'32"	28'30"	0	24.11	18.44	18.60	33.60
	"	"	130	25.92	9.85	18.61	33.62

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat 33°	Long 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3224 7/11/55	48'32"	28'30"	780	26.54	8.18	18.86	34.07
	"	"	1460	26.88	6.93	18.97	34.27
3225 7/11/55	48'30"	26'10"	0	24.05	18.33	18.53	33.48
	"	"	124	25.65	10.83	18.54	33.49
	"	"	224	26.03	9.71	18.67	33.73
3226 7/11/55	50'33"	26'15"	0	23.87	18.94	18.51	33.44
	"	"	90	25.40	11.98	18.51	33.44
	"	"	240	26.13	9.27	18.69	33.77
3227 7/11/55	50'40"	28'45"	0	23.91	19.17	18.59	33.58
	"	"	203	25.98	9.62	18.62	33.64
	"	"	383	26.33	8.84	18.78	33.93
3228 7/11/55	50'30"	31'04"	0	24.03	18.89	18.62	33.64
	"	"	180	25.72	10.51	18.55	33.51
	"	"	340	26.11	9.15	18.66	33.71
3229 7/11/55	50'35"	33'30"	0	23.99	18.89	18.59	33.58
	"	"	152	25.49	10.97	18.45	33.31
	"	"	272	25.90	9.32	18.53	33.48
3230 7/11/55	52'33"	38'22"	0	24.03	18.89	18.62	33.64
	"	"	126	25.56	11.32	18.53	33.48
	"	"	476	26.30	8.83	18.76	33.89
	"	"	906	27.39	8.31	18.92	34.18
3231 7/11/55	52'48"	36'05"	0	24.81	15.56	18.61	33.62
	"	"	153	25.40	11.94	18.50	33.42
	"	"	253	25.72	11.21	18.63	33.66
3232 7/11/55	52'38"	33'36"	0	24.22	18.06	18.61	33.62

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat 33°	Long 118°	Bottle Depth (Feet)	Sigma t	Temp	Cl.	S
3232 7/11/55	52'38"	33'36"	135	25.28	12.72	18.52	33.46
	"	"	235	25.70	9.73	18.44	33.31
3233 7/11/55	52'28"	31'13"	0	24.27	18.06	18.64	33.68
	"	"	100	25.35	12.46	18.54	33.49
	"	"	200	25.85	10.02	18.58	33.57
3234 7/11/55	52'54"	28'40"	0	24.16	18.39	18.62	33.64
	"	"	156	–	–	–	–
	"	"	236	25.99	9.86	18.66	33.71
3235 7/11/55	52'20"	25'50"	0	23.98	18.33	18.48	33.39
	"	"	50	24.00	18.19	18.47	33.37
	"	"	85	25.54	11.63	18.56	33.53
3237 7/12/55	34° 00'28"	31'18"	0	23.97	18.33	18.47	33.37
	"	"	30	23.70?	18.84?	18.37	33.19
	"	"	45	–	–	18.54	33.49
3238 7/12/55	01'20"	33'27"	0	23.84	19.17	18.53	33.48
	"	"	30	24.34	16.91	18.50	33.42
	"	"	50	24.78	15.36	18.56	33.53
3239 7/12/55	01'50"	35'38"	0	23.95	18.83	18.55	33.51
	"	"	34	24.63	16.55	18.09	32.68
	"	"	51	24.99	14.14	18.52	33.46
3240 7/12/55	00'20"	37'15"	0	24.12	18.33	18.58	33.57
	"	"	100	25.37	11.97	18.49	33.40
	"	"	180	25.93	9.92	18.62	33.64
3241 7/12/55	33° 58'36"	38'22"	0	24.36	17.50	18.61	33.62
	"	"	87	25.12	13.49	18.52	33.46

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat 33°	Long 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3241 7/12/55	58'36"	38'22"	307	26.23	19.14	18.75	33.87
	"	"	577	26.29	9.60	18.84	34.04
3242 7/12/55	58'35"	36'00"	0	24.22	17.83	18.57	33.55
	"	"	67	25.17	13.55	18.56	33.53
	"	"	242	-	-	-	-
	"	"	457	26.28	8.94	18.76	33.89
3243 7/12/55	58'42"	33'40"	0	24.18	18.06	18.58	33.57
	"	"	83	25.18	13.42	18.55	33.51
	"	"	173	25.90	9.82	18.59	33.58
3244 7/12/55	58'40"	31'24"	0	23.92	19.33	18.62	33.64
	"	"	63	25.61	11.23	18.56	33.53
	"	"	113	25.89	9.70	18.57	33.55
3245 7/12/55	58'33"	27'00"	0	23.44	19.44	18.29	33.04
	"	"	26	24.22	18.02	18.60	33.60
3246 7/12/55	56'33"	27'24"	0	25.57	18.89	18.29	33.04
	"	"	28	23.80	18.11	18.31	33.08
3247 7/12/55	56'32"	29'06"	0	24.07	18.33	18.55	33.51
	"	"	60	25.37	12.34	18.54	33.49
	"	"	100	25.02	14.09?	18.54	33.49
3248 7/12/55	56'38"	31'20"	0	23.07	18.28	17.81	32.18
	"	"	92	25.41	12.18	18.54	33.49
	"	"	162	25.84	10.15	18.59	33.58
3249 7/12/55	"	33'48"	0	24.18	18.06	18.58	33.46
	"	"	70	25.06	13.81	18.52	33.46
	"	"	190	25.84	10.08	18.58	33.57

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat 33°	Long 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3249 7/12/55	56'38"	33'48"	350	26.27	9.03	18.76	33.89
3250 7/12/55	56'33"	36'10"	0	24.24	18.56	18.71	33.80
	"	"	71	24.88	14.93	18.56	33.53
	"	"	421	26.29	8.98	18.77	33.91
	"	"	751	27.34	8.39	18.81	34.13
3251 7/12/55	56'33"	38'29"	0	24.13	18.33	18.59	33.58
	"	"	171	25.55	11.50	18.55	33.51
	"	"	546	26.11	9.21	18.67	33.73
			926	26.28	8.95	18.76	33.89
3253 7/13/55	56'38"	33'48"	0	24.32	17.22	18.53	33.48
	"	"	200	26.23	7.88	18.61	33.62
	"	"	370	27.16	9.15	18.70	33.78
3254 7/13/55	54'36"	33'38"	0	24.34	17.11	18.54	33.48
	"	"	109	25.72	10.60	18.56	33.53
	"	"	279	26.02	9.33	18.62	33.64
3255 7/13/55	54'51"	36'02"	0	24.17	17.22	18.57	33.55
	"	"	324	26.18	9.20	18.72	33.82
	"	"	604	26.54	8.56	18.90	34.14
3256 7/13/55	52'38"	33'35"	0	24.22	17.78	18.56	33.53
	"	"	121	25.52	11.83	18.57	33.55
	"	"	221	25.98	9.90	18.66	33.71
1030 7/20/55	See	BT		24.40	16.88*	18.53	33.48
1035 7/20/55	"	"		24.12	18.05*	18.53	33.48
1039 7/20/55	"	"		23.48	20.25*	18.47	33.37
1045 7/20/55	"	"		23.28	20.67*	18.41	33.26

*Temperature from centigrade thermometer.

APPENDIX TO CRUISES

HYDOGRAPHIC STATIONS

Station No.	Lat 33°	Long 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
1050 7/20/55	See	BT		23.26	20.75*	18.41	33.26
1053 7/24/55	"	"		23.32	20.65*	18.43	33.30
1055 7/24/55	"	"		23.38	20.35*	18.42	33.28
1057 7/20/55	"	"		23.34	20.25*	18.37	33.19
1059 7/20/55	"	"		23.19	19.80*	18.18	32.84
1101 7/20/55	"	"		23.43	18.00*	18.02	32.56
1103 7/20/55	"	"		23.88	16.96*	18.17	32.83
3287 7/28/55	34° 00'44"	32'06"	0	24.53	16.61	18.58	33.57
	"	"	50	24.93	13.43	18.54	33.49
	"	"	70	25.82	9.83	18.54	33.49
3288	34° 00'45"	33'09"	0	24.52	16.60	18.57	33.55
	"	"	25	25.49	15.50	18.54	33.49
	"	"	75	25.80	9.92	18.53	33.48
3289	34° 01'02"	36'07"	0	24.39	17.00	18.55	33.51
	"	"	50	25.51	15.46	18.55	33.51
	"	"	65	25.39	12.25	18.54	33.49
3290	34° 01'01"	38'08"	0	24.29	17.45	18.55	33.51
	"	"	50	25.52	15.43	18.55	33.51
	"	"	100	25.54	11.43	18.54	33.49
3291	33° 59'22"	38'32"	0	24.04	18.80	18.61	33.62
	"	"	25	-	-	-	-
	"	"	100	26.40	11.00	18.54	33.49
	"	"	200	25.95	9.66	18.61	33.62
3292	59'13"	36'32"	0	24.10	18.32	18.57	33.55
	"	"	50	-	-	18.55	33.55

*Temperature from centigrade thermometer.

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat 33°	Long 118°	Bottle Depth (Feet)	Sigma t	Temp	Cl.	S
3232 7/28/55	59'13"	36'32"	150	26.61	9.98	18.56	33.53
3293	59'11"	34'32"	0	24.12	18.14	18.55	33.51
	"	"	50	25.43	15.74	18.53	33.48
	"	"	125	25.67	10.84	18.55	33.51
3294	59'14"	32'34"	0	24.23	17.80	18.57	33.55
	"	"	55	25.68	14.61	18.53	33.48
	"	"	105	25.45	11.94	18.54	33.49
3295	58'15"	29'58"	0	24.34	17.35	18.57	33.55
	"	"	25	25.47	15.60	18.54	33.49
	"	"	75	25.44	12.09	18.55	33.51
3296	56'49"	29'55"	0	23.79	18.91	18.45	33.33
	"	"	58	24.98	17.63	18.53	33.48
	"	"	108	24.93	14.68	18.56	33.53
3297	56'49"	31'54"	0	24.31	17.39	18.56	33.53
	"	"	25	-	-	18.53	33.48
	"	"	50	26.46	10.66	18.54	33.49
	"	"	150	25.81	10.08	18.56	33.53
3298	55'51"	33'30"	0	23.95	19.10	18.60	33.60
	"	"	50	-	-	18.53	33.48
	"	"	150	25.72	9.74	18.61	33.62
	"	"	250	26.12	9.17	18.67	33.73
3299	53'44"	28'32"	0	23.99	18.45	18.51	33.44
	"	"	65			18.54	33.49
	"	"	115	26.41	10.94	18.54	33.49
	"	"	165	25.78	10.35	18.57	33.55

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat 33°	Long 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3300 7/28/55	56'56"	27'03"	0	23.84	17.86	18.30	33.06
	"	"	30	-	16 +	18.48	33.39
	"	"	50	25.37	12.36	18.54	33.49
3301	57'09"	29'00"	0	24.06	17.80	18.45	33.33
	"	"	20	-	16 +	18.42	33.28
	"	"	40	24.99	14.14	18.52	33.46
3303 7/29/55	51'41"	26'23"	0	23.86	19.10	18.54	33.49
	"	"	55			18.53	33.48
	"	"	95	26.29	11.54	18.53	33.48
	"	"	135	25.79	10.33	18.57	33.55
3304	51'33"	28'48"	0	23.93	18.80	18.53	33.48
	"	"	92			18.54	33.49
	"	"	192	25.85	10.05	18.58	33.57
	"	"	292	26.07	9.16	18.64	33.68
3305	51'24"	31'07"	0	24.03	18.50	18.55	33.51
	"	"	80	-	-	18.53	33.48
	"	"	130	25.69	10.81	18.56	33.53
	"	"	180	25.82	10.20	18.58	33.57
3306	51'13"	33'31"	0	23.90	19.30	18.60	33.60
	"	"	55	-	-	18.54	33.49
	"	"	105	25.62	10.98	18.53	33.48
	"	"	205	25.86	10.01	18.58	33.57
3307	49'04"	33'32"	0	23.80	19.80	18.62	33.64
	"	"	205	-	-	18.60	33.60
	"	"	480	26.41	8.67	18.82	34.00

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat 33°	Long 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3307 7/29/55	49'04"	33'32"	800	26.55	8.45	18.90	34.14
3308	49'07"	31'11"	0	24.10	18.20	18.55	33.51
	"	"	100	-	-	18.55	33.51
	"	"	250	25.75	9.66	18.62	33.64
	"	"	400	26.29	8.79	18.75	33.87
0830 7/29/55	See	BT		24.06	17.60	18.41	33.26
0835 7/29/55	"	"		23.91	17.80	18.34	33.13
0840 7/29/55	"	"		23.89	17.80	18.32	33.10
0845 7/29/55	"	"		24.11	17.50	18.43	33.30
0849 7/29/55	"	"		24.27	17.30	18.51	33.44
0855 7/29/55	"	"		24.36	17.20	18.56	33.53
0905 7/29/55	"	"		24.34	17.30	18.56	33.53
0915 7/29/55	"	"		24.31	17.40	18.56	33.53
0925 7/29/55	"	"		24.35	17.20	18.55	33.51
0935 7/29/55	"	"		24.25	17.30	18.50	33.42
0945 7/29/55	"	"		24.49	17.90	18.22	32.92
0955 7/29/55	"	"		24.39	17.50	18.08	32.66
1005 7/29/55	"	"		24.24	17.40	18.51	33.44
1016 7/29/55	"	"		24.30	17.30	18.53	33.48
1030 7/29/55	"	"		24.27	17.50	18.55	33.51
1041 7/29/55	"	"		24.27	17.50	18.55	33.51
1051 7/29/55	"	"		24.16	17.80	18.52	33.46
3329 8/11/55	57'47"	35'47"		24.05	18.50	18.56	33.53
3330	57'55"	34'40"		24.05	18.49	18.56	33.53
3331	57'59"	33'27"		23.96	18.79	18.55	33.51

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat 33°	Long 118°	Bottle Depth (Feet)	Sigma t	Temp	Cl.	S
3332 8/11/55	58'05"	32'14"		23.90	18.86	18.55	33.51
3333	58'11"	31'06"		23.83	19.20	18.53	33.48
3334	58'15"	29'55"		23.72	19.50	18.51	33.44
3335	58'20"	28'43"		23.75	19.51	18.53	33.48
3336	57'20"	28'36"		23.52	19.36	18.34	33.13
3337	57'15"	29'48"		23.69	19.57	18.49	33.42
3338	57'10"	30'59"		23.84	19.21	18.54	33.49
3339	57'05"	32'10"		23.91	19.00	18.55	33.51
3340	57'00"	33'20"		23.98	18.87	18.58	33.57
3341	56'55"	34'35"		24.08	18.63	18.61	33.62
3342	56'50"	35'43"		24.04	18.60	18.57	33.55
3343	55'49"	35'38"		23.88	19.10	18.55	33.51
3344	55'55"	34'26"		23.87	19.19	18.56	33.53
3345	56'00"	33'15"		23.93	19.10	18.58	33.57
3346	56'05"	32'04"		23.94	18.73	18.55	33.51
3347	56'12"	30'48"		23.92	19.00	18.56	33.53
3348	56'15"	29'42"		23.77	19.45	18.53	33.48
3349	56'20"	28'31"		23.67	19.04	18.39	33.22
3350	54'23"	28'20"		23.64	19.41	18.43	33.30
3351	54'18"	29'30"		23.85	19.00	18.51	33.44
3352	54'13"	30'42"		23.74	19.58	18.54	33.49
3353	54'07"	31'52"		23.89	19.18	18.57	33.55
3354	54'02"	33'03"		23.82	19.41	18.56	33.53
3355 8/16/55	46'32"	27'03"	0	23.80	19.40	18.55	33.51
	"	"	60	25.26	12.86	18.53	33.48

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat 33°	Long 118°	Bottle Depth (Feet)	Sigma t	Temp	Cl.	S
3355 8/16/55	46'32"	27'03"	120	25.56	11.18	18.54	33.49
3356	46'35"	29'25"	0	23.70	19.98	18.58	33.57
	"	"	300	26.03	9.40	18.63	33.66
	"	"	600	26.39	8.71	18.81	33.98
3357	46'35"	31'49"	0	23.49	20.20	18.57	33.55
	"	"	500	26.55	8.42	18.89	34.13
	"	"	1500	26.79	7.30	18.95	34.23
3358	46'47"	34'06"	0	23.40	21.36	18.63	33.66
	"	"	600	26.41	8.64	18.82	34.00
	"	"	1800	26.88	6.67	18.95	34.23
3359	48'38"	36'29"	0	23.62	20.59	18.64	33.68
	"	"	500	-	8.94	Broken Bottle	
	"	"	1500	26.77	7.57	18.96	34.25
3360	48'42"	34'05"	0	23.44	21.10	18.61	33.62
	"	"	400	26.21	9.01	18.72	33.82
	"	"	900	26.53	8.57	18.89	34.13
3361	48'43"	31'44"	0	23.70	20.01	18.59	33.58
	"	"	200	25.88	9.89	18.58	33.57
	"	"	400	26.15	9.08	18.68	33.75
3362	48'43"	27'21"	0	23.55	20.58	18.59	33.58
	"	"	250	25.75	10.51	18.57	33.55
	"	"	600	26.18	9.11	18.71	33.80
3363	48'43"	27'00"	0	23.61	20.32	18.58	33.57
	"	"	200	25.77	10.34	18.56	33.53
	"	"	400	26.03	9.50	18.64	33.68

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat 33°	Long 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3364 8/16/55	50'38"	24'47"	0	23.24	21.40	18.43	33.30
	"	"	30	24.43-	16 +	18.41	33.26
	"	"	70	25.19	13.15	18.52	33.46
3365	52'38"	27'15"	0	23.69	20.10	18.60	33.60
	"	"	60	24.64-	16 +	18.56	33.53
	"	"	120	25.58	11.24	18.54	33.49
3366 8/17/55	56'34"	30'32"	0	23.93	19.10	18.58	33.57
	"	"	60	24.65-	16 +	18.57	33.55
	"	"	120	25.45	12.17	18.57	33.55
3367	56'34"	28'10"	0	23.83	19.40	18.57	33.55
	"	"	25	24.64-	16 +	18.56	33.53
	"	"	60	24.69	15.62	18.54	33.49
3368	54'37"	27'06"	0	23.17	19.60	18.12	32.72
	"	"	25	No	Sample		
	"	"	50	24.64-	16 +	18.56	33.53
3369	54'38"	29'28"	0	23.74	19.85	18.59	33.58
	"	"	50	24.83	15.32	18.59	33.58
	"	"	100	25.56	11.28	18.53	33.48
3370	54'38"	31'50"	0	23.77	19.81	18.60	33.60
	"	"	75	24.88	14.65	18.52	33.46
	"	"	150	25.62	11.00	18.54	33.49
3371	54'38"	34'11"	0	23.66	20.20	18.60	33.60
	"	"	150	25.70	10.66	18.55	33.51
	"	"	300	25.87	9.83	18.57	33.55
3372	52'42"	34'13"	0	23.41	21.20	18.61	33.62

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat 33°	Long 118°	Bottle Depth (Feet)	Sigma t	Temp	Cl.	S.
3372 6/17/55	52'42"	34'13"	100	25.05	13.97	18.54	33.49
	"	"	200	25.80	11.07	18.55	33.51
3373	50'42"	34'15"	0	23.36	21.40	18.61	33.62
	"	"	100	25.23	13.13	18.55	33.51
	"	"	200	25.76	10.37	18.56	33.53
3374	50'44"	31'53"	0	23.95	20.99	18.60	33.60
	"	"	100	25.37	12.51	18.56	33.53
	"	"	200	25.72	10.59	18.56	33.53
3375	50'42"	29'32"	0	23.53	20.65	18.59	33.58
	"	"	120	25.64	11.17	18.57	33.55
	"	"	250	25.98	9.78	18.64	33.68
3376	50'40"	27'10"	0	23.60	20.30	18.57	33.55
	"	"	100	24.89	14.74	18.54	33.49
	"	"	200	25.78	10.26	18.56	33.53
3377	52'40"	29'29"	0	23.54	20.65	18.60	33.60
	"	"	75	24.62-	16	18.55	33.51
	"	"	150	25.58	11.25	18.54	33.49
3378	52'40"	31'52"	0	23.43	21.14	18.61	33.62
	"	"	60	24.62-	16	18.55	33.51
	"	"	120	25.59	11.14	18.53	33.48
3379	56'35"	32'52"	0	23.66	20.28	18.61	33.62
	"	"	75	24.[illegible]	[illegible].58	18.54	33.49
	"	"	150	25.[illegible]	11.[illegible]	18.[illegible]	33.[illegible]
3380	58'30"	31'44"	0	[illegible]	[illegible]40	[illegible]	[illegible]
	"	"	50	24.62-	16 +	18.55	33.51

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat 33°	Long 118°	Bottle Depth (Feet)	Sigma t.	Temp.	Cl.	S
3380 8/17/55	58'30"	31'44"	100	25.57	11.81	18.61	33.62
3381	58'32"	29'26"	0	23.89	19.65	18.59	33.58
	"	"	20	24.65-	16 +	18.57	33.55
	"	"	40	24.72	15.72	18.57	33.55
3382	34° 00'13"	31'08"	0	23.90	19.22	18.58	33.57
	"	"	15	24.65-	16 +	18.57	33.55
	"	"	35	24.61-	16 +	18.54	33.49
3383	33° 58'30"	34'07"	0	23.79	19.65	18.59	33.58
	"	"	75	25.22	13.07	18.53	33.48
	"	"	150	25.54	11.42	18.53	33.48
3384	34° 00'12"	33'28"	0	24.04	18.60	18.57	33.55
	"	"	35	24.81	15.17	18.55	33.51
	"	"	75	25.42	12.12	18.54	33,49
0915 8/24/55	See	BT		-	18.33	18.45	33.33
0945 8/24/55	"	"		-	17.78	18.33	33.12
1015 8/24/55	"	"		-	16.67	18.56	33.53
1050 8/24/55	"	"		-	18.39	18.60	33.60
1120 8/24/55	"	"		-	17.39	18.60	33.60
1150 8/24/55	"	"		-	17.44	18.59	33.58
1218 8/24/55	"	"		-	18.72	18.58	33.57
1244 8/24/55	"	"		-	17.89	18.59	33.58
1248 8/24/55	"	"		-	18.28	18.59	33.58
1255 8/24/55	"	"		-	18.78	18.40	33.24
1302 8/24/55	"	"		-	16.61	17.93	32.39
1314 8/24/55	"	"		-	18.56	18.52	33.46

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat	Long 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
1347 8/24/55	See	BT		-	18.11	18.55	33.51
1520 8/24/55	"	"		-	17.28	18.53	33.48
1550 8/24/55	"	"		-	17.72	18.54	33.48
0900 8/25/55	"	"		-	16.44	18.48	33.39
3399 8/25/55	33° 52'08"	39'15"		24.55	16.67	18.61	33.62
3400	50'30"	37'06"		24.65	16.17	18.60	33.60
3416 9/7/55	47'35"	28'21"		-	20.10	18.56	33.53
3417	49'42"	28'19"		-	19.25	18.57	33.55
3418	51'38"	27'23"	0	-	18.51	18.58	33.57
	"	"	25	-	17.69	18.56	33.53
	"	"	50	-	16.00+	18.54	33.49
	"	"	75	-	12.92	18.53	33.48
	"	"	100	-	12.32	18.54	33.49
	"	"	150	-	11.40	18.54	33.49
	"	"	200	-	10.61	18.57	33.55
3419	55'35"	30'36"			17.70	18.55	33.51
3420	57'58"	34'01"			15.99	18.54	33.49
3421	56'20"	37'00"	0		16.79	18.55	33.51
	"	"	25		15.04	18.53	33.48
	"	"	50		13.86	18.53	33.48
	"	"	75		12.29	18.52	33.46
	"	"	150		11.25	18.54	33.49
	"	"	300		9.90	18.61	33.62
	"	"	700		8.84	18.79	33.95
3422	53'47"	36'34"			18.53	18.54	33.49

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat 33°	Long 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3423 9/17/55	54'02"	35'01"			17.70	18.54	33.49
3424	55'42"	32'03"			18.70	18.53	33.48
3425	58'46"	31'18"	0		17.00	18.56	33.53
	"	"	10		17.07	18.55	33.51
	"	"	20		16.60	18.55	33.51
	"	"	40		14.21	18.54	33.49
	"	"	55		13.80	18.54	33.49
	"	"	75		12.89	18.55	33.51
	"	"	95		12.65	18.53	33.48
1016 9/7/55	See	BT				18.53	33.48
1018 9/7/55	"	"				18.56	33.53
1020 9/7/55	"	"				18.54	33.49
1024 9/7/55	"	"				18.55	33.51
1025 9/7/55	"	"				18.55	33.51
1026 9/7/55	"	"				18.56	33.53
1027 9/7/55	"	"				18.54	33.49
1028 9/7/55	"	"				18.55	33.51
1029 9/7/55	"	"				18.54	33.49
1030 9/7/55	"	"				18.53	33.48
1031 9/7/55	"	"				18.53	33.48
1032 9/7/55	"	"				18.56	33.53
1033 9/7/55	"	"				18.53	33.48
1034 9/7/55	"	"				18.53	33.48
1036 9/7/55	"	"				18.53	33.48
0835 9/8/55	"	"				18.38	33.21

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat	Long	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
0850 9/8/55	See	BT				18.55	33.51
0910 9/8/55	"	"				18.54	33.49
0915 9/8/55	"	"				18.53	33.48
0920 9/8/55	"	"				18.52	33.46
0927 9/8/55	"	"				18.53	33.48
0941 9/8/55	"	"				18.53	33.48
0955 9/8/55	"	"				18.55	33.51
1009 9/8/55	"	"				18.54	33.49
1023 9/8/55	"	"				18.25	32.97
1030 9/8/55	"	"				18.39	33.22
1035 9/8/55	"	"				18.36	33.17
1045 9/8/55	"	"				18.55	33.51
1050 9/8/55	"	"				18.56	33.53
1120 9/8/55	"	"				18.60	33.60
1131 9/8/55	"	"				18.54	33.49
1144 9/8/55	"	"				18.57	33.55
1155 9/8/55	"	"				18.57	33.55
1200 9/8/55	"	"				18.57	33.55
1205 9/8/55	"	"				18.56	33.53
1210 9/8/55	"	"				18.56	33.53
1216 9/8/55	"	"				18.55	33.57
1220 9/8/55	"	"				18.58	33.57
1235 9/8/55	"	"				18.59	33.58
1240 9/8/55	"	"				18.55	33.51
1245 9/8/55	"	"				18.58	33.57

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat 33°	Long 118°	Bottle Depth	Sigma t	Temp.	Cl.	S
1250 9/8/55	See	BT				18.58	33.57
1251 9/8/55	"	"				18.55	33.51
1306 9/8/55	"	"				18.53	33.48
1315 9/8/55	"	"				18.55	33.51
1330 9/8/55	"	"				18.57	33.55
1344 9/8/55	"	"				18.57	33.55
1351 9/8/55	"	"				18.57	33.55
1407 9/8/55	"	"				18.57	33.55
1420 9/8/55	"	"				18.56	33.53
1430 9/8/55	"	"				18.55	33.51
1440 9/8/55	"	"				18.56	33.53
1450 9/8/55	"	"				18.55	33.51
1500 9/8/55	"	"				18.56	33.53
1510 9/8/55	"	"				18.56	33.53
1520 9/8/55	"	"				18.39	33.22
1620 9/8/55	"	"				18.34	33.13
1705 9/8/55	"	"				18.54	33.49
0925 9/9/55	"	"				18.54	33.49
3448 9/9/55	54'22"	28'20"			19.80	18.55	33.51
3449	54'18"	29'30"			20.82	18.56	33.53
3450	54'13"	30'42"			20.13	18.55	33.51
3451	54'08"	31'52"			18.80	18.56	33.53
3452	54'03"	33'03"			18.28	18.54	33.49
3453	53'58"	34'15"			17.55	18.53	33.48
3454	54'57"	34'20"			18.10	18.52	33.46

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.		Lat 33°	Long 118°	Bottle Depth	Sigma t	Temp.	Cl.	S
3455	9/9/55	54'52"	35'30"			16.81	18.53	33.48
3456		53'53"	35'26"			17.95	18.54	33.49
3457		52'54"	35'19"			17.90	18.54	33.49
3458		52'54"	35'19"			17.90	18.53	33.48
3459		52'59"	34'08"			17.85	18.53	33.48
3460		53'03"	33'56"			18.00	18.53	33.48
3461		53'08"	31'47"			18.70	18.56	33.53
3462		53'12"	30'35"			18.91	18.54	33.49
3463		53'19"	29'24"			20.65	18.55	33.51
3464		53'23"	28'13"			20.90	18.55	33.51
3465		Not	Given			18.90	18.55	33.51
3466		"	"			18.83	18.53	33.48
3467		"	"			18.61	18.55	33.51
3468		"	"			18.67	18.53	33.48
0905	9/14/55	See	BT				18.57	33.55
0907	"	"	"				18.58	33.57
0909	"	"	"				18.58	33.57
0911	"	"	"				18.58	33.57
0913	"	"	"				18.58	33.57
0915	"	"	"				18.58	33.57
0917	"	"	"				18.57	33.55
0919	"	"	"				18.59	33.58
0921	"	"	"				18.58	33.57
0923	"	"	"				18.57	33.55
0925	"	"	"				18.58	33.57

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat	Long 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
0927 9/4/55	See	BT				18.58	33.57
0929 "	"	"				18.58	33.57
0931 "	"	"				18.58	33.57
0933 "	"	"				18.57	33.55
0936 "	"	"				18.58	33.57
0938 "	"	"				18.57	33.55
0940 "	"	"				18.56	33.53
0942 "	"	"				18.58	33.57
0944 "	"	"				18.58	33.57
0946 "	"	"				18.58	33.57
0948 "	"	"				18.58	33.57
0950 "	"	"				18.55	33.51
0952 "	"	"				18.56	33.53
0954 "	"	"				18.56	33.53
3469 9/14/55	33° 47'21"	30'42"			18.28	18.67	33.73
3470	51'53"	32'38"	0		17.00	18.57	33.55
	"	"	10		17.07	18.56	33.53
	"	"	20		16.60	18.55	33.51
	"	"	40		14.21	18.54	33.49
	"	"	55		13.80	18.52	33.46
	"	"	75		12.89	18.52	33.46
	"	"	95		12.65	18.52	33.46
3471	51'28"	35'15"			18.28	18.60	33.60
3472	51'28"	37'20"	0		18.39	18.60	33.60
	51'28"	37'20	25		18.03	18.57	33.55

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3472 9/14/55	51'28"	37'20"	50		15.50 +	18.56	33.53
"	"	"	75		14.80	18.53	33.48
"	"	"	150		12.75	18.52	33.46
"	"	"	300		10.60	18.52	33.46
"	"	"	700		9.09	18.64	33.68
3473	52'54"	34'38"				18.58	33.57
3475	55'05"	27'10"	0		19.44	18.10	32.70
	"	"	15		17.92	18.54	33.49
	"	"	30		14.72	18.53	33.48
	"	"	50		13.73	18.54	33.49
3476	50'37"	27'47"			18.39	18.55	33.51
3478 9/15/55	54'33"	27'07"			18.89	18.41	33.26
3479	55'05"	26'25"			20.39	18.33	33.12
3480	55'10"	26'56"			17.94	17.82	32.20
3481	55'37"	26'49"			19.56	18.32	33.10
3482	55'33"	27'30"			20.28	18.37	33.19
3483	55'01"	27'29"			20.00	18.41	33.26
3484	55'05"	27'17"			19.44	18.39	33.22
3485	53'36"	27'35"			16.72	18.43	33.30
3486	54'50"	28'03"			19.56	18.38	33.21
3487	55'49"	28'00"			19.00	18.35	33.15
3488	56'07"	28'30"			19.44	18.28	33.03
3490	53'09"	27'49"			19.39	18.58	33.57
3491	52'41"	28'04"			18.56	18.57	33.55
3492	54'30"	29'11"			18.72	18.57	33.55

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3493	56'24"	29'01"			18.56	18.58	33.57
3494	56'42"	29'30"			18.94	18.57	33.55
3495	56'58"	30'00"			18.50	18.56	33.53
3496	54'21"	29'46"			18.33	18.56	33.53
3497	54'11"	30'18"			18.33	18.55	33.51
3498	52'14"	28'16"			19.33	18.57	33.55
0820 9/16/55	See	BT				18.53	33.48
0830 "	"	"				18.51	33.44
0840 "	"	"				18.33	33.12
0850 "	"	"				18.11	32.72
0900 "	"	"				18.56	33.53
0920 "	"	"				18.56	33.53
0927 "	"	"				18.56	33.53
0936 "	"	"				18.56	33.53
0945 "	"	"				18.54	33.49
0955 "	"	"				18.35	33.15
1000 "	"	"				18.07	32.65
1009 "	"	"				17.96	32.45
1011 "	"	"				17.82	32.20
1013 "	"	"				18.36	33.17
1015 "	"	"				18.02	32.56
1017 "	"	"				17.77	32.10
1020 "	"	"				17.78	32.12
1022 "	"	"				18.43	33.30
1024 "	"	"				18.45	33.33

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.		Lat.	Long.	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
1026	9/16/55	See	BT				18.38	33.21
1028	"	"	"				18.37	33.19
1032	"	"	"				18.32	33.10
1034	"	"	"				18.50	33.42
1036	"	"	"				18.53	33.48
1038	"	"	"				18.56	33.53
1040	"	"	"				18.56	33.53
1043	"	"	"				18.56	33.53
1045	"	"	"				18.55	33.51
1048	"	"	"				18.55	33.51
1050	"	"	"				18.56	33.53
1057	"	"	"				18.55	33.51
1103	"	"	"				18.55	33.51
1135	"	"	"				18.50	33.42
1145	"	"	"				18.52	33.46
1215	"	"	"				18.56	33.53
1240	"	"	"				18.51	33.44
1028	9/29/55	"	"				18.35	33.15
1037	"	"	"				18.30	33.06
1047	"	"	"				18.50	33.42
1102	"	"	"				18.56	33.53
1127	"	"	"				18.55	33.51
1137	"	"	"				18.54	33.49
1153	"	"	"				18.55	33.51
1237	"	"	"				18.56	33.53

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
1252 9/29/55	See	BT				18.55	33.51
1305 "	"	"				18.57	33.55
1318 "	"	"				18.58	33.57
1333 "	"	"				18.58	33.57
1346 "	"	"				18.57	33.55
1402 "	"	"				18.55	33.51
1415 "	"	"				18.54	33.49
1434 "	"	"				18.55	33.51
1448 "	"	"				18.56	33.53
1502 "	"	"				18.58	33.57
1520 "	"	"				18.57	33.55
1534 "	"	"				18.56	33.53
1548 "	"	"				18.55	33.51
1601 "	"	"				18.55	33.51
3526 9/30/55	50'27"	37'15"	0		16.00	18.62	33.64
	"	"	25			18.60	33.60
	"	"	45			18.57	33.55
	"	"	100			18.58	33.57
	"	"	500			18.76	33.89
3527	49'21"	36'04"			16.20	18.57	33.55
3528	50'28"	35'03"			16.08	18.56	33.53
3529	53'06"	28'57"			17.10	18.56	33.53
3530	51'54"	29'54"			17.01	18.55	33.51
3531	49'42"	30'02"			17.62	18.55	33.51
3532	47'22"	26'08"			17.96	18.41	33.26

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3532 9/30/55	47'22"	26'08"	20			18.50	33.42
	"	"	40			18.53	33.48
	"	"	70			18.53	33.48
	"	"	110			18.53	33.48
3533	46'19"	27'04"			17.91	18.49	33.40
1435 11/9/55	See	BT				18.59	33.58
1440 "	"	"				18.59	33.58
1445 "	"	"				18.60	33.60
1450 "	"	"				18.59	33.58
1456 "	"	"				18.44	33.31
1500 "	"	"				18.39	33.22
1505 "	"	"				18.41	33.26
1510 "	"	"				18.44	33.31
1515 "	"	"				18.46	33.35
1520 "	"	"				18.44	33.31
1525 "	"	"				18.50	33.42
1530 "	"	"				18.46	33.35
1535 "	"	"				18.61	33.62
1540 "	"	"				18.60	33.60
1545 "	"	"				18.61	33.62
1550 "	"	"				18.60	33.60
1555 "	"	"				18.60	33.60
1600 "	"	"				18.61	33.62
1605 "	"	"				18.60	33.60
0910 11/10/55	"	"				18.52	33.46

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat.	Long.	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
0920 11/10/55	See	BT				18.53	33.48
0945 "	"	"				18.50	33.42
0955 "	"	"				18.57	33.55
1005 "	"	"				18.60	33.60
1010 "	"	"				18.62	33.64
1434 11/22/55	"	"				18.53	33.48
0715 11/23/55	"	"				18.54	33.49
0722 "	"	"				18.53	33.48
0740 "	"	"				18.52	33.46
0751 "	"	"				18.51	33.44
0805 "	"	"				18.55	33.51
0820 "	"	"				18.55	33.51
0831 "	"	"				18.54	33.49
0844 "	"	"				18.57	33.55
0903 "	"	"				18.55	33.51
0915 "	"	"				18.55	33.51
0927 "	"	"				18.38	33.21
0930 "	"	"				18.16	32.81
0935 "	"	"				18.19	32.86
0937 "	"	"				18.10	32.70
0940 "	"	"				18.26	32.99
0945 "	"	"				18.45	33.33
0950 "	"	"				18.51	33.44
0955 "	"	"				18.54	33.49
1010 "	"	"				18.56	33.53

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat.	Long.	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
1025 11/23/55	See	BT				18.55	33.51
1038 "	"	"				18.55	33.51
1055 "	"	"				18.55	33.51
1110 "	"	"				18.54	33.49
1125 "	"	"				18.48	33.39
1130 "	"	"				18.48	33.39
1140 "	"	"				18.47	33.37
1150 "	"	"				18.46	33.35
1153 "	"	"				18.47	33.37
1220 "	"	"				18.55	33.51
1240 "	"	"				18.55	33.51
1255 "	"	"				18.55	33.51
1310 "	"	"				18.52	33.46
1325 "	"	"				18.51	33.44
1020 12/29/55	"	"				18.61	33.62
1039 "	"	"				18.55	33.51
1101 "	"	"				18.65	33.69
1118 "	"	"				18.56	33.53
1120 "	"	"				18.56	33.53
1131 "	"	"				18.56	33.53
1143 "	"	"				18.56	33.53
1156 "	"	"				18.53	33.48
1210 "	"	"				18.38	33.21
1237 "	"	"				18.62	33.64
1256 "	"	"				18.57	33.55

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.		Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
1308	12/29/55	See	BT				18.59	33.58
1315	"	"	"				18.57	33.55
1335	"	"	"				18.56	33.53
1349	"	"	"				18.50	33.42
1406	"	"	"				18.51	33.44
1435	"	"	"				18.57	33.55
1447	"	"	"				18.59	33.58
1506	"	"	"				18.56	33.53
1516	"	"	"				18.55	33.51
1532	"	"	"				18.53	33.48
1543	"	"	"				18.51	33.44
1605	"	"	"				18.50	33.42
3806	1/12/56	55'10"	26'50"	0		12.80	18.20	32.88
		"	"	15		12.52	18.37	33.19
		"	"	25		11.76	18.48	33.39
		"	"	45		11.84?	18.55	33.51
3807		55'13"	26'58"	0		13.00	18.00	32.52
		"	"	15		12.27	18.44	33.31
		"	"	25		11.68	18.51	33.44
		"	"	45		11.51	18.56	33.53
3808		55'22"	27'03"	0		13.10	18.07	32.65
		"	"	15		12.89	18.40	32.24
		"	"	25		11.95	18.50	32.42
		"	"	45		10.18	18.54	33.49
3809		55'32"	27'07"	0		13.30	18.38	33.21

APPENDIX TO CRUISES

Station No.	Lat. 33o	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3809 1/12/56	55'32"	27'07"	15		12.92	18.35	33.15
	"	"	25		11.65	18.53	33.48
	"	"	45		-	18.57	33.55
3810	55'40"	27'11"	0		13.40	18.25	32.97
	"	"	15		13.18	18.29	33.04
	"	"	25		12.35	18.49	33.40
	"	"	45		-	18.55	33.51
3811	55'48"	27'16"	0		13.40	18.24	32.95
	"	"	15		13.07	18.30	33.06
	"	"	25		12.60	18.46	33.35
	"	"	45		9.02?	18.53	33.48
3812	54'31"	26'41"	0		14.15	18.49	33.40
	"	"	10		13.55	18.48	33.49
	"	"	20		12.59	18.52	33.46
	"	"	40		11.71?	18.50	33.42
3813	54'38"	26'42"	0		13.85	18.50	33.42
	"	"	10		13.42	18.46	33.35
	"	"	20		13.20	18.48	33.39
	"	"	40		1048?	18.50	33.42
3814	54'47"	26'43"	0		13.65	18.47	33.37
	"	"	10		13.39	18.48	33.39
	"	"	20		13.28	-	-
	"	"	40		-	-	-
3815	54'55"	26'49"	0		13.30	18.07	32.65
	"	"	10		13.19	18.22	32.92

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3815 1/12/56	54'55"	26'49"	20		12.77	18.48	33.39
	"	"	40		-	18.54	33.49
3817 1/13/56	55'06"	26'53"	0		12.70	17.90	32.34
"	"	"	15		12.61	18.38	33.21
"	"	"	25		12.03	18.51	33.44
"	"	"	45		-	18.53	33.48
3818	55'14"	26'57"	0		13.55	18.36	33.17
	"	"	15		13.11	18.45	33.31
	"	"	25		12.25	18.52	33.46
	"	"	45		11.92	18.53	33.48
3819	55'23"	27'02"	0		12.90	17.85	32.25
	"	"	15		12.93	18.41	33.26
	"	"	25		12.70	18.51	33.44
	"	"	45		11.92	-	-
3820	55'32"	27'03"	0		13.30	18.06	32.63
	"	"	15		13.21	18.42	33.28
	"	"	25		12.67	18.48	33.39
	"	"	45		12.26	18.52	33.46
3821	55'44"	27'13"	0		13.60	18.18	32.84
	"	"	15		12.75	18.47	33.37
	"	"	25		12.41	18.51	33.44
	"	"	45		12.27	18.51	33.44
3822	55'52"	27'16"	0		13.60	18.45	33.33
	"	"	15		12.87	18.49	33.40
	"	"	25		12.39	18.50	

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3822 1/13/56	55'52"	27'16"	45		12.28	18.52	33.46
3823	56'04"	27'23"	0		13.80	18.37	33.19
	"	"	15		12.65	18.49	33.40
	"	"	25		12.23	18.48	33.39
	"	"	45		12.17	18.50	33.42
3824	56'14"	27'28"	0		13.30	18.50	33.42
	"	"	10		12.95	18.47	33.37
	"	"	20		12.17	18.51	33.44
	"	"	40		12.19	18.51	33.44
3825	56'23"	27'30"	0		13.60	18.49	33.40
	"	"	15		13.08	18.45	33.33
	"	"	25		12.44	18.48	33.39
	"	"	45		12.19	18.46	33.35
3826	56'35"	27'37"	0		13.95	18.35	33.15
	"	"	15		12.92	18.45	33.33
	"	"	25		12.31	18.49	33.40
	"	"	45		12.11	18.49	33.40
3827	46'30"	26'29"	0		13.30	18.52	33.46
	"	"	15		12.78	18.50	33.42
	"	"	25		12.17	18.50	33.42
	"	"	45		12.11	18.51	33.44
#1 1/12,13/56	Bacteria	Sta.				17.45	31.53
#2 "	"	"				18.12	32.74
#3 "	"	"				18.10	32.70
#4 "	"	"				18.38	33.21

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.		Lat.	Long. 118°	Bottle Depth	Sigma t	Temp.	Cl.	S
#5	1/12/13/56	Bacteria	Sta.				18.39	33.22
#6	"	"	"				18.08	32.66
#19	"	"	"				17.91	32.36
#23	"	"	"				17.86	32.27
#27	"	"	"				18.37	33.19
#31	"	"	"				18.40	33.24
#35	"	"	"				18.32	33.10
#39	"	"	"				18.51	33.44
#43	"	"	"				18.69	33.77
#47	"	"	"				18.72	33.82
#51	"	"	"				18.33	33.12
#55	"	"	"				18.45	33.33
#59	"	"	"				17.98	32.48
#63	"	"	"				18.39	33.22
#67	"	"	"				18.36	33.17
#71	"	"	"				18.29	33.04
#75	"	"	"				18.65	33.69
#79	"	"	"				18.54	33.49
#83	"	"	"				18.53	33.48
#87	"	"	"				18.58	33.57
#91	"	"	"				18.48	33.39
#95	"	"	"				18.43	33.30
3828	1/18/56	33° 46'22"	27'00"			13.15	18.53	33.48
3829		48'05"	26'32"			13.10	18.49	33.40
1127	1/18/56	See	BT				18.48	33.39

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat.	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3830 1/18/56	33° 49'47"	27'13"			13.25	18.50	33.42
3831	48'59"	29'26"			13.20	18.52	33.46
3832	48'12"	31'40"			-	18.53	33.48
3833	49'55"	32'17"			13.20	18.53	33.48
3834	50'43"	30'00"			13.20	18.54	33.49
3835	51'30"	27'45"			13.00	18.47	33.37
1259 1/18/56	See	BT				18.48	33.39
1310 "	"	"				18.37	33.19
3836	33° 52'20"	28'37"			12.90	18.57	33.55
3837	52'20"	30'48"			13.00	18.53	33.48
3838	51'33"	33'03"			13.00	18.53	33.48
3839	53'09"	33'58"			13.30	18.55	33.51
3840	53'57"	31'42"			13.20	18.54	33.49
3841	54'42"	29'29"			13.20	18.54	33.49
1520 1/18/56	See	BT				18.52	33.46
3843	33° 55'58"	32'53"			13.00	18.54	33.49
1604 1/18/56	See	BT				18.54	33.49
3846	33° 57'33"	34'29"			12.90	18.55	33.51
3847	58'38"	32'21"			12.70	18.55	33.51
3848	34° 01'22"	34'53"			-	18.53	33.48
1700 1/18/56	See	BT				18.53	33.48
3849 1/19/56	34° 01'44"	35'04"	0		-	18.55	33.51
	"	"	20		12.12	18.54	33.51
	"	"	40		-	18.54	33.49
	"	"	60		11.53	18.53	33.48

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat.	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3850 1/19/56	34° 01'44"	35'04"	0		11.80	18.55	33.51
"	"	"	20		11.70	18.54	33.49
"	"	"	35			18.54	33.49
3851	00'43"	35'15"	0		12.20	18.54	33.49
"	"	"	20		12.09	18.53	
"	"	"	40		-	18.55	33.51
"	"	"	60		11.64	18.55	33.51
3852	00'14"	35'16"	0		12.80	18.55	33.51
"	"	"	20		12.51	18.53	33.48
"	"	"	40		-	18.53	33.48
"	"	"	60		11.65	18.53	33.48
3853	33° 59'43"	35'14"	0		12.90 +	18.55	33.51
"	"	"	20		12.93	18.53	33.48
"	"	"	40		-	18.53	33.48
"	"	"	100		11.64	18.53	33.48
3854	59'12"	35'13"	0		13.00	18.55	33.51
"	"	"	20		12.82	18.54	33.49
"	"	"	40		-	18.53	33.48
"	"	"	80		11.65	18.59	33.48
3855	58'43"	35'13"	0		13.10	18.55	33.51
"	"	"	20		12.84	18.58	33.57
"	"	"	40		-	18.54	33.49
"	"	"	120		11.64	18.55	33.51
3856	58'15"	35'13"	0		13.00	18.55	33.51
"	"	"	20		11.39	18.56	33.53

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3856 1/19/56	58'15"	35'13"	40		-	18.56	33.53
"	"	"	180		11.64	18.68	33.75
3857	57'43"	35'12"	0		13.00	18.56	33.53
"	"	"	20		12.95	18.55	33.51
"	"	"	40		-	18.54	33.49
"	"	"	196		11.64	18.56	33.53
3858	57'14"	35'11"	0		13.20	18.56	33.53
"	"	"	20		12.94	18.54	33.49
"	"	"	40		-	18.55	33.51
"	"	"	250		9.86	18.65	33.69
3859	57'33"	34'42"	0		13.00	18.55	33.51
"	"	"	20		12.83	18.55	33.51
"	"	"	40		-	18.54	33.49
"	"	"	200		10.07	18.63	33.66
3860	57'52"	34'15"	0		13.00	18.55	33.51
"	"	"	20		12.83	18.55	33.51
"	"	"	40		-	18.55	33.51
"	"	"	125		10.09?	18.53	33.48
3861	58'09"	33'45"	0		13.10	18.54	33.49
"	"	"	20		12.83	18.53	33.48
"	"	"	40		-	18.54	33.49
"	"	"	82		10.09?	18.54	33.49
3862	58'46"	32'47"	0		13.00	18.56	33.53
"	"	"	20		12.74	18.54	33.49
"	"	"	40		-	18.54	33.49

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3862 1/19/56	58'46"	32'47"	60		10.09?	18.54	33.49
3863	59'23"	31'48"	0		12.80	-	-
	"	"	20		12.36	18.53	33.48
	"	"	40		-	18.56	33.53
	"	"	80		10.09?	18.56	33.53
3864	59'58"	30'48"	0		12.40	18.54	33.49
	"	"	20		12.10	18.54	33.49
	"	"	40		-	18.54	33.49
3866 1/20/56	55'10"	27'04"	0		12.60	18.06	32.63
	"	"	20		12.17	18.47	33.37
	"	"	40		-	18.53	33.48
3867	55'10"	27'04"	0		12.30	18.34	33.13
	"	"	20		11.85	18.54	33.49
	"	"	40		-	18.55	33.51
	"	"	65		10.09?	18.57	33.55
3868	54'47"	28'13"	0		12.20	18.38	33.21
	"	"	20		12.03	18.48	33.39
	"	"	40		-	18.54	33.49
	"	"	80		10.08?	18.54	33.49
3869	54'27"	29'18"	0		12.30	-	-
	"	"	20		12.19	18.48	33.39
	"	"	40		-	18.53	33.48
	"	"	100		10.10?	18.55	33.51
3870	53'42"	31'33"	0		12.30	18.54	33.49
	"	"	20		12.34	18.54	33.49

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3870 1/20/56	53'42"	31'33"	40			18.54	33.49
	"	"	115		10.08?	18.55	33.51
3871	52'16"	30'38"	0		12.30	18.54	33.49
	"	"	20		12.10	18.54	33.49
	"	"	40		-	18.55	33.51
	"	"	125		10.10?	18.57	33.55
3872	51'36"	29'32"	0		12.00	18.54	33.49
	"	"	20		12.04	18.54	33.49
	"	"	40			18.54	33.49
	"	"	180		10.09?	18.60	33.60
3873	51'11"	28'40"	0		11.00	18.54	33.49
	"	"	20		11.99	18.54	33.49
	"	"	40		-	18.56	33.53
	"	"	NOT GIVEN		10.09?	18.63	33.66
3874	50'06"	26'38"	0		12.40	18.51	33.44
	"	"	20		12.33	18.51	33.44
	"	"	40		-	18.53	33.48
	"	"	110		10.11?	18.55	33.51
3875	49'18"	25'10"	0		12.30	18.51	33.44
	"	"	20		12.20	18.51	33.44
	"	"	40		-	18.54	33.49
	"	"	100		10.09?	18.55	33.51
3876	48'46"	24'07"	0		-	-	-
	"	"	20		12.09	18.52	33.46
	"	"	40		-	18.53	33.48

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat.	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3908 2/15/56	33° 46'45"	26'11"			14.00	18.42	33.28
3909	47'05"	26'31"			13.70	18.48	33.39
3910	47'29"	26'53"			13.40	18.49	33.40
3911	47'55"	27'16"			13.30	18.42	33.28
3912	48'15"	27'37"			14.00	18.34	33.13
3913	49'03"	28'20"			14.00	18.33	33.12
3914	49'56"	29'11"			13.75	18.42	33.28
3915	49'52"	27'57"			13.95	18.35	33.15
3916	49'49"	26'46"			13.90	18.31	33.08
3917	49'44"	25'35"			14.00	18.30	33.06
3918	49'43"	24'57"			13.80	18.32	33.10
3919	49'41"	24'25"			13.90	18.35	33.15
3920	49'40"	23'54"			14.00	18.38	33.21
3921	55'08"	26'52"			13.40	18.20	32.88
3922	55'02"	27'32"			13.80	18.22	32.92
3923	54'48"	28'15"			13.45	18.46	33.35
3924	54'36"	29'11"			13.40	18.49	33.40
3925	54'13"	30'16"			13.55	18.49	33.40
3926	59'04"	33'25"			13.30	18.39	33.22
3927	34° 00'07"	33'38"			12.90	18.42	33.28
3928	00'37"	33'44"			12.85	18.40	33.24
3929	01'06"	33'49"			13.00	18.40	33.24
3930	01'36"	33'55"			13.00	18.41	33.26
#31 3/8/56	Bacteria	Sta.				18.22	32.92
#32 3/8/56	"	"				18.14	32.77

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat.	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
#33 3/8/56	Bacteria	Sta.				18.39	33.21
#34 "	"	"				18.47	33.37
#35 "	"	"				18.50	33.42
#36 "	"	"				18.57	33.55
#37 "	"	"				18.53	33.48
#38 "	"	"				18.54	33.49
#39 "	"	"				18.55	33.51
#40 "	"	"				18.56	33.53
#41 "	"	"				18.59	33.58
#42 "	"	"				18.64	33.68
#43 "	"	"				18.60	33.60
#44 "	"	"				18.68	33.75
#45 "	"	"				18.51	33.44
#46 "	"	"				18.75	33.87
#47 "	"	"				18.53	33.48
#48 "	"	"				18.58	33.57
4002 3/22/56	34° 01'32"	34'24"	0		14.50	18.45	33.33
	"	"	20		13.44	18.51	33.44
	"	"	40		12.49*	18.55	33.51
4003	00'36"	34'46"	0		14.70	18.44	33.31
	"	"	20		13.96	18.44	33.31
	"	"	40		12.54	18.57	33.55
	"	"	100		11.11*	18.57	33.55
4004	33° 59'42"	35'21"	0		13.90	18.55	33.51
	"		20		12.93	18.58	33.57

*Uncorrected

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
4004 3/22/56	59'42"	35'21"	40		12.68	18.59	33.58
	"	"	100		11.40*	18.59	33.58
4005	58'48"	35'52"	0		13.80	18.58	33.57
	"	"	20		13.04	18.56	33.53
	"	"	40		12.53	18.56	33.53
	"	"	100		10.21*	18.58	33.57
4006	57'57"	36'26"	0		14.20	18.57	33.55
	"	"	20		13.06	18.57	33.55
	"	"	40		12.57	18.58	33.57
	"	"	100		10.90*	18.56	33.53
4007	57'01"	36'59"	0		14.65	18.54	33.49
	"	"	20		12.73	18.55	33.51
	"	"	40		11.92	18.58	33.57
	"	"	100		11.45*	18.53	33.48
4008	56'11"	37'30"	0		14.20	18.54	33.49
	"	"	20		13.21	18.56	33.53
	"	"	40		13.02	18.56	33.53
	"	"	100		11.37*	18.53	33.48
4009	55'13"	38'04"	0		14.45	18.57	33.55
	"	"	20		13.55	18.56	33.53
	"	"	40		13.34	18.54	33.49
	"	"	100		11.85*	18.53	33.48
4010	55'13"	36'56"	0		14.60	18.56	33.53
	"	"	20		13.64	18.53	33.48
	"	"	40		13.25	18.53	33.48

*Uncorrected

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
4010 3/22/56	55'13"	36'56"	100		11.63*	18.53	33.48
4011	55'13"	35'44"	0		14.40	18.54	33.49
	"	"	20		13.64	18.55	33.51
	"	"	40		13.21	18.55	33.51
	"	"	100		11.55*	18.53	33.48
4012	55'13"	34'30"	0		14.50	18.56	33.53
	"	"	20		13.36	18.54	33.49
	"	"	40		13.07	18.52	33.46
	"	"	100		11.52*	18.52	33.46
4013	55'10"	33'18"	0		14.50	18.56	33.53
	"	"	20		13.80	18.55	33.51
	"	"	40		12.85	18.52	33.46
	"	"	100		11.48*	18.53	33.48
4014	55'12"	32'11"	0		14.80	18.56	33.53
	"	"	20		13.54	18.54	33.49
	"	"	40		12.74	18.55	33.51
	"	"	100		11.60*	18.53	33.48
4015	55'12"	31'02"	0		14.10	18.58	33.57
	"	"	20		12.99	18.54	33.49
	"	"	40		12.42	18.58	33.57
	"	"	100		11.58*	18.54	33.49
4016	55'12"	29'47"	0		14.10	18.59	33.58
	"	"	20		13.44	18.54	33.49
	"	"	40		12.55	18.55	33.51
	"	"	100		12.00*	18.54	33.49

*Uncorrected

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
4017 3/22/56	55'10"	28'35"	0		14.10	18.56	33.53
	55'10"	"	20		13.33	18.56	33.53
	"	"	40		12.74	18.55	33.51
	"	"	100		11.43*	18.58	33.57
4018	55'10"	27'22"	0		15.60	18.29	33.04
	"	"	20		14.76	18.26	32.99
	"	"	40		13.41	18.54	33.49
** 10:14 3/28/56	See	BT	0			18.61	33.62
"	"	"	"			18.60	33.60
"	"	"	"			18.61	33.62
"	"	"	" Av			18.61	33.61
1040 "	"	"				18.57	33.55
1048 "	"	"				18.59	33.58
** 1104 "	"	"	0			18.60	33.60
"	"	"	"			18.61	33.62
"	"	"	"			18.60	33.60
"	"	"	" Av			18.60	33.61
1116 "	"	"				18.60	33.60
1129 "	"	"				18.64	33.68
1143 "	"	"				18.60	33.60
1158 "	"	"				18.59	33.58
1238 "	"	"				18.61	33.62
** 1252 "	"	"	0			18.60	33.60
"	"	"	"			18.59	33.58
"	"	"	"			18.60	33.60

*Uncorrected
*Hydrographic check

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.		Lat.	Long.	Bottle Depth	Sigma t	Temp.	Cl.	S
** 1252	3/28/56	See	BT	0 Av.			18.60	33.59
1303	"	"	"				18.59	33.58
** 1316	"	"	"	0			18.62	33.64
	"	"	"	"			18.62	33.64
	"	"	"	"			18.62	33.64
	"	"	"	" Av.			18.62	33.64
1329	"	"	"				18.60	33.60
** 1342	"	"	"	0			18.61	33.62
	"	"	"	"			18.61	33.62
	"	"	"	"			18.61	33.62
	"	"	"	" Av.			18.61	33.62
1354	"	"	"				18.46	33.35
1410	"	"	"				18.49	33.40
1424	"	"	"				18.61	33.62
1436	"	"	"				18.59	33.58
1450	"	"	"				18.60	33.60
1505	"	"	"				18.59	33.58
1518	"	"	"				18.59	33.58
1532	"	"	"				18.58	33.57
1544	"	"	"				18.49	33.40
1104	3/29/56	"	"				18.57	33.55
1130	"	"	"				18.58	33.57
1140	"	"	"				18.58	33.57
1211	"	"	"				18.63	33.66
1235	"	"	"				18.61	33.62

** Hydrographic check

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
4086 4/17/56	55'07"	26'52"	0		14,50	18.00	32.52
	"	"	15			18.21	32.90
	"	"	30			18.58	33.57
	"	"	45			18.62	33.64
4087	54'50"	26'44"	0		14.22	18.27	33.01
	"	"	15			18.49	33.40
	"	"	30			18.60	33.60
	"	"	45			18.60	33.60
4088	54'32"	26'39"	0		14.30	18.04	32.59
	"	"	15			18.47	33.37
	"	"	30			18.60	33.60
	"	"	45			18.60	33.60
4089	54'15"	26'37"	0		14.50	18.18	32.84
	"	"	15			18.39	33.22
	"	"	30			18.61	33.62
	"	"	45			18.61	33.62
4090	53'59"	26'32"	0		14.85	18.37	33.19
	"	"	15			18.55	33.51
	"	"	30			18.57	33.55
	"	"	45			18.61	33.62
4092	53'45"	26'18"	0		15.00	18.13	32.75
	"	"	15			18.48	33.39
	"	"	30			18.59	33.58
	"	"	45			18.61	33.62
4093	53'33"	26'05"	0		15.50+	18.24	32.95

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
4093 4/17/56	53'33"	26'05"	15			18.49	33.40
	"	"	30			18.54	33.49
	"	"	45			18.55	33.51
4094	53'22"	25'43"	0		15.40	18.13	32.75
	"	"	15			18.50	33.42
	"	"	30			18.51	33.44
	"	"	45			18.56	33.53
4095	53'11"	25'30"	0		15.50	18.17	32.83
	"	"	15			18.48	33.39
	"	"	30			18.53	33.48
	"	"	45			18.49	33.40
4096	53'00"	25'26"	0		15.45	18.29	33.04
	"	"	15			18.38	33.21
	"	"	30			18.50	33.42
	"	"	45			18.55	33.51
4197 4/25/56	47'54"	26'10"			14.70	18.56	33.53
1038 "	See	BT				18.52	33.46
4198	49'43"	27'15"			14.90	18.56	33.53
4199	49'00"	29'28"			14.75	18.56	33.53
4200	48'17"	31'43"			14.90	18.57	33.55
4201	49'53"	32'19"			14.90	18.57	33.55
4202	50'42"	30'03"			14.85	18.58	33.57
1214 "	See	BT				18.52	33.46
4203	51'30"	27'48"			14.80	18.56	33.53
4204	53'03"	28'38"			15.25	18.55	33.51

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
4205 4/25/56	52'18"	30'48"			14.75	18.58	33.57
4206	51'31"	33'05"			15.10	18.59	33.58
4207	53'05"	33'47"			16.50	18.59	33.58
4208	53'52"	31'45"			15.80	18.58	33.57
4209	54'42"	29'34"			15.00	18.58	33.57
1418 "	See	BT				18.34	33.13
1435 "	"	"				18.30	33.06
4210	56'43"	30'43"			15.20	18.58	33.57
4211	55'51"	33'01"			15.55	18.58	33.57
4212	55'04"	35'11"			14.90	18.58	33.57
4213	57'00"	36'43"			15.10	18.57	33.55
4214	57'48"	34'32"			15.00	18.58	33.57
4215	58'35"	32'21"			16.00	18.51	33.41
1617	See	BT				18.36	33.17
1640	"	"				18.39	33.22
*4217 5/8/56	55'06"	26'53"			12.78	A 17.34	31.33
						B 17.35	31.35
						C 17.36	31.36
						A 17.58	31.76
						B 17.45	31.53
						C 17.45	31.53
4218	55'23"	27'06"			13.78	A 17.93	32.39
						B 17.96	32.45
						C 17.95	32.45
						A 18.13	32.75

*Bottle test

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
* 4218 5/8/56	55'23"	27'06"			B	18.06	32.63
					C	18.05	32.61
* 4219 "	55'37"	27'10"			15.00 A	18.24	32.95
					B	18.24	32.95
					C	18.24	32.95
					A	18.45	33.33
					B	18.35	33.15
					C	18.35	33.15
* 4220 "	55'35"	27'12"			14.44 A	17.77	32.10
					B	17.77	32.10
					C	17.76	32.09
					A	17.96	32.45
					B	17.91	32.36
					C	17.85	32.25
* 4221 "	55'54"	27'35"			14.72 A	18.48	33.39
					B	18.48	33.39
					C	18.49	33.40
					A	18.67	33.73
					B	18.60	33.60
					C	18.59	33.58
* 4222 "	56'06"	27'48"			16.56 A	18.22	32.92
					B	18.22	32.92
					C	18.21	32.90
					A	18.37	33.19
					B	18.33	33.12

*Bottle test

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.		Cl.	S
* 4222 5/8/56	56'06"	27'48"				C	18.34	33.13
* 4223 "	56'17"	27'50"			16.11	A	17.86	32.27
						B	17.86	32.27
						C	17.85	32.25
						A	18.07	32.65
						B	17.99	32.50
						C	17.97	32.47
* 4224 "	56'37"	27'53"			15.56	A	18.42	33.28
						B	18.43	33.30
						C	18.43	33.30
						A	18.66	33.71
						B	18.54	33.49
						C	18.54	33.49
4236 5/22/56	55'07"	26'56"	0		15.00		17.91	32.36
	"	"	15		14.90		18.10	32.70
	"	"	30		14.3-		18.58	33.57
	"	"	45		13.88		18.58	33.57
4239	55'42"	27'28"	0		15.50		18.05	32.61
	"	"	15		15.60		18.46	33.35
	"	"	30		14.5-		18.58	33.57
	"	"	45		12.37		18.61	33.62
4240	55'55"	27'29"	0		16.60		18.37	33.19
	"	"	15		15.74		18.46	33.35
	"	"	30		14.5-		18.59	33.58
	"	"	45		12.67		18.61	33.61

* Bottle test

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
4241 5/22/56	55'42"	26'55"	0		16.75	18.33	33.12
	"	"	15		17.03	18.37	33.13
	"	"	30		16.4-	18.39	33.22
	"	"	45		15.43	18.56	33.53
4242	55'32"	26'28"	0		16.50	18.33	33.12
	"	"	10		15.98	18.31	33.08
	"	"	25		16.3-	18.33	33.12
4243	55'35"	26'32"	0		-	18.27	33.01
	"	"	15		15.60	18.29	33.04
	"	"	30		16.0-	18.54	33.49
4244	55'27"	26'37"	0		15.85	18.29	33.04
	"	"	15		15.49	18.50	33.42
	"	"	30		14.5-	18.58	33.57
4627 6/7/56	47'54"	34'22"	0		16.90	18.75	33.87
	"	"	20		-	18.70	33.78
	"	"	60		14.4-	18.69	33.77
	"	"	100		11.38	18.63	33.66
	"	"	500		9.00	18.98	34.29
	"	"	1000		9.21	19.00	34.33
	"	"				19.12	34.54
	"	"				19.12	34.54
	"	"				19.12	34.54
	"	"				19.11	34.52
4268	47'15"	32'30"	0		16.90	18.71	33.80
	"	"	20?		16.29	18.70	33.78

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
4268 6/7/56	47'15"	32'30"	40?		14.55	18.67	33.73
	"	"	100?		13.8-	18.66	33.71
	"	"	500?		9.05	18.94	34.22
	"	"	1000?		8.08	19.03	34.38
	"	"				19.10	34.51
	"	"				19.09	34.49
	"	"				19.11	34.52
	"	"				19.16	34.61
4269	46'22"	30'55"	0		17.20	18.72	33.82
	"	"	20		15.98	18.69	33.77
	"	"	50		12.0-	18.72	33.82
	"	"	250		9.15	18.84	34.04
	"	"	500		9.01	18.80	33.96
	"	"	750		6.80	19.03	34.38
	"	"	1000		8.55	19.07	34.45
	"	"				18.79	33.95
	"	"				19.07	34.45
	"	"				19.17	34.63
	"	"				19.11	34.52
4270	47'55"	31'37"	0		17.40	18.62	33.64
	"	"	20		-	18.63	33.66
	"	"	60		15.49	18.61	33.62
	"	"	250		-	18.74	33.86
	"	"	500		9.04	18.91	34.16
	"	"	750		8.79	18.95	34.23

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth	Sigma t	Temp.	Cl.	S
4270 6/7/56	47'55"	31'37"	1000		8.31	19.01	34.34
	"	"				19.01	34.34
	"	"				19.01	34.34
	"	"				19.01	34.34
4271	48'15"	30'17"	0		17.00	18.62	33.64
	"	"	20		15.63	18.60	33.60
	"	"	60		14.80	18.60	33.60
	"	"	250		-	18.67	33.73
	"	"	500		9.10	18.83	34.02
	"	"	750		8.87	18.91	34.16
	"	"	1000		7.34	18.98	34.29
	"	"				19.02	34.36
	"	"				19.01	34.34
	"	"				19.00	34.33
	"	"				18.99	34.31
4272	48'23"	29'09"	0		16.40	18.63	33.66
	"	"	20		-	18.61	33.62
	"	"	60		14.38	18.60	33.60
	"	"	100		12.89	18.60	33.60
	"	"	250		13.92	18.67	33.73
	"	"	500		9.09	18.82	34.00
	"	"	1200		8.18	18.94	34.22
4273	48'55"	29'10"	0		16.50	18.71	33.80
	"	"	20		16.16	18.70	33.78
	"	"	60		13.11	18.70	33.78

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
4273 6/7/56	48'55"	29'10"	100		13.12	18.69	33.77
	"	"	200		10.17	18.72	33.82
	"	"	400		-	18.84	34.04
	"	"	700		-	19.00	34.33
	"	"	900		9.10	18.94	34.22
	"	"	1000		8.31	18.98	34.29
	"	"				19.07	34.45
	"	"			Bazooka	19.07	34.45
	"	"				19.06	34.43
	"	"				19.06	34.43
4274 6/8/56	49'22"	26'53"	0		16.90	18.68	33.75
	"	"	20		15.88	18.68	33.75
	"	"	60		13.19	18.65	33.69
	"	"	250		9.12	18.91	34.16
	"	"	500		8.83	18.96	34.25
	"	"	750		8.21	19.02	34.36
	"	"	1000		7.81	19.03	34.38
	"	"				19.05	34.42
	"	"				19.07	34.45
	"	"				19.06	34.43
	"	"				19.04	34.40
4275	49'50"	25'12"	0		17.00	18.73	33.84
	"	"	20		16.0 +	18.69	33.77
	"	"	60		11.09	18.68	33.75
	"	"	100		10.45	18.72	33.82

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
4275 6/8/56	49'50"	25'12"	250		9.15	18.85	34.05
	"	"	500		8.22	19.02	34.36
	"	"				19.02	34.36
	"	"				19.02	34.36
	"	"				19.03	34.38
	"	"				19.03	34.38
4276	50'03"	24'04"	0		17.70	18.68	33.75
	"	"	20		17.07	18.70	33.78
	"	"	60		10.86	18.69	33.77
	"	"	100		10.50	18.72	33.82
	"	"	250		9.16	18.84	34.04
	"	"				18.88	34.11
	"	"				18.86	34.07
	"	"				18.87	34.09
	"	"				18.88	34.11
4277	49'43"	23'53"	0		17.50	18.69	33.77
	"	"	10		17.16	18.70	33.78
	"	"	20		16. +	18.72	33.82
	"	"	30		16.81	18.71	33.80
	"	"				18.69	33.77
	"	"				18.69	33.77
	"	"				18.71	33.80
	"	"				18.70	33.78
4278	50'19"	24'09"	0		17.80	18.70	33.78
	"	"	20		15.63	18.69	33.77

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
4278 6/8/56	50'19"	24'09"	30		13.85	18.69	33.77
	"	"	40		11.68	18.69	33.77
	"	"				18.70	33.78
	"	"				18.70	33.78
	"	"				18.70	33.78
	"	"				18.70	33.78
4279	50'14"	25'32"	0		17.80	18.78	33.93
	"	"	20		-	18.70	33.78
	"	"	60		-	18.72	33.82
	"	"	100		10.47	18.70	33.78
	"	"	250		9.11	18.86	34.07
	"	"	350		8.80	18.93	34.20
	"	"				19.00	34.33
	"	"				19.00	34.33
	"	"				19.01	34.34
	"	"				19.00	34.33
4280	49'22"	24'55"	0		17.50	18.70	33.78
	"	"	20		16.45	18.74	33.86
	"	"	60		12.29	18.67	33.73
	"	"	100		10.47	18.67	33.73
	"	"				18.78	33.93
	"	"				18.74	33.86
	"	"				18.72	33.82
	"	"				18.72	33.82
	"	"				18.72	33.82
4281	48'33"	26'14"	0		17.60	18.68	33.75

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
4281 6/8/56	48'33"	26'14"	20		16.80	18.67	33.73
	"	"	60		13.78	18.67	33.73
	"	"	100		11.23	18.73	33.84
	"	"	250		9.41	18.79	33.95
	"	"				18.92	34.18
	"	"				18.91	34.16
	"	"				18.90	34.14
	"	"				18.92	34.18
4282	48'50"	29'33"	0		-	18.73	33.84
	"	"	20		15.96	18.68	33.75
	"	"	60		14.53	18.67	33.73
	"	"	250		9.33	18.81	33.98
	"	"	500		8.96	18.94	34.22
	"	"	750		8.44	18.99	34.31
	"	"				19.02	34.36
	"	"				19.03	34.38
	"	"				19.03	34.38
	"	"				19.02	34.36
4283	48'03"	28'53"	0		16.60	18.72	33.82
	"	"	20		16.02	18.70	33.78
	"	"	60		13.62	18.74	33.86
	"	"	100		12.24	18.71	33.80
	"	"	250		9.42	18.77	33.91
	"	"	500		8.99	18.96	34.25
	"	"				19.02	34.36

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
4283 6/8/56	48'03"	28'53"				19.03	34.38
	"	"				19.03	34.38
	"	"				19.03	34.38

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Whites Point and Orange County

Station No.	Lat 33°	Long 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
Whites Pt.							
3551 10/21/55	42'05"	19'46"	0		15.74	18.50	33.42
	"	"	15		15.15	18.50	33.42
	"	"	95		11.59	18.53	33.48
3552	42'00"	19'30"	0		15.81	18.50	33.42
	"	"	15		15.45	18.50	33.42
	"	"	95		10.98	18.54	33.49
3553	42'12"	20'00"	0		15.42	18.48	33.39
	"	"	15		15.22	18.48	33.39
	"	"	95		11.00	18.50	33.42
3554	41'48"	20'17"	0		15.60	18.51	33.44
	"	"	15		15.37	18.50	33.42
	"	"	95		11.10	18.51	33.44
3555	41'42"	19'22"	0		15.70	18.51	33.44
	"	"	15		15.04	18.47	33.37
	"	"	95		10.74	18.53	33.48
3556	41'45"	19'57"	0		15.50	18.50	33.42
	"	"	15		15.46	18.51	33.44
	"	"	95		11.14	18.52	33.46
3357	42'00"	20'09"	0		15.50	18.51	33.44
	"	"	15		15.09	18.47	33.37
	"	"	95		11.47	18.51	33.44
3558	41'44"	19'58"	0		15.50	18.51	33.44
	"	"	15		15.43	18.51	33.44
	"	"	95		11.05	18.50	33.42
3559	41'31"	20'12"	0		15.70	18.52	33.46

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat 33°	Long	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3559 10/21/55	41'31"	118°20'12"	15		15.48	18.50	33.42
	"	"	95		11.14	18.51	33.44
3560	41'30"	19'42"	0		15.95	18.50	33.42
	"	"	15		15.46	18.50	33.42
	"	"	95		11.25	18.51	33.44
Orange Co. 3561 10/22/55	36'52"	117°58'15"	0		15.70	18.01	33.54
	"	"	15		15.83	18.50	33.42
	"	"	45		14.13	18.51	33.44
3563	36'55"	58'28"	0		16.35	18.31	33.08
	"	"	15		16.15	18.48	33.39
	"	"	45		14.05	18.51	33.49
3564	37'03"	58'35"	0		16.60	18.52	33.46
	"	"	15		16.03	18.55	33.51
	"	"	45		14.63	18.54	33.49
3565	37'05"	58'42"	0		16.60	18.54	33.49
	"	"	15		16.17	18.54	33.49
	"	"	45		15.21	18.54	33.49
3566	37'10"	58'56"	0		16.62	18.55	33.51
	"	"	15		16.05	18.54	33.49
	"	"	45		13.89	18.53	33.48
3567	36'12"	58'07"	0		16.20	18.43	33.30
	"	"	15		16.25	18.54	33.49
	"	"	45		14.71	18.53	33.48
3568	36'50"	58'01"	0		17.00	18.46	33.35
	"	"	15		16.68	18.48	33.39

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long.	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
		117°					
3568 10/22/55	35'50"	58'01"	45		14.60	18.53	33.48
3569	36'02"	58'57"	0		17.02	18.60	33.60
	"	"	15		16.92	18.57	33.55
	"	"	45		15.45	18.54	33.49
Whites Pt.		118°					
3619 11/3/55	42'03"	19'07"	0		16.30	18.57	33.55
	"	"	15		15.73	18.53	33.48
	"	"	115		11.16	18.53	33.48
3620	41'49"	19'14"	0		16.00	18.57	33.55
	"	"	15		15.68	18.54	33.49
	"	"	50		13.22	18.53	33.48
	"	"	110		12.15	18.53	33.48
3621	41'36"	19'18"	0		16.20	18.58	33.57
	"	"	15		15.88	18.56	33.53
	"	"	50		14.03	18.53	33.48
	"	"	110		11.79	18.53	33.48
3622	41'24"	19'32"	0		16.50	18.57	33.55
	"	"	15		15.92	18.56	33.53
	"	"	50		14.08	18.54	33.49
	"	"	110		12.43	18.51	33.44
3623	41'57"	18'50"	0		16.05	18.55	33.51
	"	"	15		15.94	18.53	33.48
	"	"	50		15.54	18.54	33.49
	"	"	110		12.17	18.53	33.48
3625	~~5~~41'33"	18'58"	0		16.40	18.56	33.53
	"	"	15		16.11	18.55	33.51

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3625 11/3/55	4~~3~~1'33"	18'58"	50		15.49	18.55	33.51
	"	"	110		14.18	18.53	33.48
3626	41'32"	19'02"	0		16.30	18.56	33.53
	"	"	15		16.12	18.55	33.51
	"	"	50		15.52	18.54	33.49
	"	"	110		12.73	18.53	33.48
3627	41'17"	19'18"	0		16.10	18.55	33.51
	"	"	15		16.14	18.55	33.51
	"	"	50		15.35	18.54	33.49
	"	"	110		13.06	18.53	33.48
*3627	"	"	0			18.49	
	"	"	15			18.49	
	"	"	50			18.48	
	"	"	110			18.46	
3628	42'05"	19'50"	0		16.00	18.46	33.35
	"	"	15		15.86	18.55	33.51
	"	"	50		15.60	18.54	33.49
	"	"	110			18.53	33.48
Orange Co. 3632 11/4/55	36'55"	117° 58'12"	0		16.15	18.49	33.40
	"	"	15		15.76	18.52	33.46
	"	"	45		15.02	18.55	33.51
3633	36'58"	58'24"	0		16.40	18.52	33.46
	"	"	15		15.97	18.50	33.42
	"		45		15.09	18.54	33.49
3634	36'52"	57'59"	0		16.40	18.46	33.35

*By Hyperion Lab. Electrical Method. Correction for Hyperion Readings to AHF Readings = +0.06 PP+ (CL).

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 117°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3634 11/4/55	36'52"	57'59"	15		15.88	18.53	33.48
	"	"	45		15.13	18.53	33.48
3635	36'48"	36'33"	0		16.85	18.48	33.39
	"	"	15		16.40	18.54	33.49
	"	"	45		15.26	18.55	33.51
3636	36'42"	57'33"	0		16.80	18.51	33.44
	"	"	15		16.30	18.55	33.51
	"	"	45		14.97	18.55	33.51
3637	36'40"	57'18"	0		17.05	18.54	33.49
	"	"	15		16.30	18.56	33.53
	"	"	45		15.78	18.56	33.53
3638	36'33"	57'03"	0		16.60	18.56	33.53
	"	"	15		16.36	18.56	33.53
	"	"	45		14.91	18.53	33.48
3639	36'28"	56'50"	0		17.00	18.54	33.49
	"	"	15		16.61	18.55	33.51
	"	"	45		15.14	18.53	33.48
3640	36'23"	56'36"	0		16.90	18.55	33.51
	"	"	15		16.49	18.54	33.49
	"	"	45		15.57	18.54	33.49
Whites Pt. 3652 11/17/55	42'05"	118° 19'52"	0		15.25	18.47	33.37
	"	"	15		14.60	18.46	33.35
	"	"	40		14.32	18.42	33.28
	"	"	120		12.39	18.38	33.21
3653	42'27"	20'27"	0		15.90	18.51	33.44

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.		Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3653	11/17/55	42'27"	20'27"	25		15.63	18.55	33.51
		"	"	105		12.97	18.44	33.31
3654	11/18/55	37'12"	117° 58'38"	0			18.53	33.48
		"	"	15		15.10	18.53	33.48
		"	"	30		15.57	18.54	33.49
		"	"	45		15.14	18.55	33.51
3656		37'02"	58'30"	0		15.80	18.52	33.46
		"	"	15		15.56	18.56	33.53
		"	"	30		15.47	18.55	33.51
		"	"	45		14.83	18.52	33.46
3657		36'57"	58'24"	0		15.77	18.41	33.26
		"	"	15		15.64	18.55	33.51
		"	"	30		15.32	18.55	33.51
		"	"	45		14.19	18.53	33.48
3658		36'52"	58'13"	0		16.00	18.38	33.21
		"	"	15		15.66	18.54	33.49
		"	"	30		15.16	18.54	33.49
		"	"	45		14.45	18.53	33.48
3659		36'43"	58'06"	0		15.95	18.41	33.26
		"	"	15		15.31	18.55	33.51
		"	"	30		15.69	18.55	33.51
		"	"	45		15.33	18.54	33.49
3660		36'40"	57'55"	0		16.40	18.54	33.49
		"	"	15		15.76	18.55	33.51
		"	"	30		15.76	18.56	33.53

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HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 117°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3660 11/18/55	36'40"	57'55"	45		14.85	18.53	33.48
3661	36'38"	58'30"	0		16.30	18.44	33.31
	"	"	15		15.73	18.55	33.51
	"	"	30		15.63	18.56	33.53
	"	"	45		15.25	18.54	33.49
3662	36'46"	58'21"	0		16.35	18.44	33.31
	"	"	15		15.71	18.55	33.51
	"	"	30		15.64	18.55	33.51
	"	"	45		15.45	18.55	33.51
3663	37'00"	58'02"	0		16.00	18.47	33.37
	"	"	15		15.60	18.48	33.39
	"	"	30		15.54	18.54	33.49
	"	"	45		14.71	18.53	33.48
3664	36'35"	58'35"	0		16.60	18.43	33.30
	"	"	15		15.77	18.53	33.48
	"	"	30		15.57	18.55	33.51
	"	"	45		14.79	18.54	33.49
3665	36'46"	58'21"	0		16.10	18.53	33.48
	"	"	15		15.82	18.54	33.49
	"	"	30		15.33	18.55	33.51
	"	"	45		14.66	18.55	33.51
3666	37'02"	58'10"	0		16.20	18.53	33.48
	"	"	15		16.03	18.54	33.49
	"	"	30		15.11	18.55	33.51
	"	"	45		14.87	18.55	33.51

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HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 117°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3667 11/18/55	36'41"	57'52"	0		15.90	18.51	33.44
	"	"	15		15.82	18.54	33.49
	"	"	30		15.28	18.54	33.49
	"	"	45		14.46		
3668	36'45"	58'06"	0		15.75	18.34	33.13
	"	"	15		15.56	18.56	33.53
	"	"	30		14.53	18.54	33.49
	"	"	45		13.91	18.53	33.48
Sta. Mon. Bay 3669	3 ~~2~~6'56"	58'22"			16.20	18.53	33.48
3670	37'02"	58'30"			16.20	18.53	33.48
3671 11/22/55	55'08"	118° 27'03"			15.00	17.76	32.09
3672	54'42"	28'12"			15.25	18.42	33.28
3673	54'24"	29'15"			15.25	18.54	33.49
3674	54'02"	30'21			15.45	18.56	33.53
3675	59'17"	29'05"			14.80	18.53	33.48
3676	59'17"	31'07"			15.00	18.53	33.48
3677	59'17"	32'23"			14.80	18.53	33.48
3678 11/30/55	49'44"	24'55"				18.53	33.48
Orange Co. 3738 12/19/55	37'06"	117° 58'50"	0		13.65	18.52	33.46
	"	"	15		13.06	18.54	33.49
	"	"	30		13.13	18.53	33.48
	"	"	45		13.77	18.55	33.51
3739	37'02"	58'40"	0		13.85	18.40	33.24

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HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 117°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3739 12/19/55	37'02"	58'40"	15		13.47	18.42	33.28
	"	"	30		13.16	18.50	33.42
	"	"	45		13.25	18.53	33.48
3740	36'56"	58'30"	0		13.50	18.52	33.46
	"	"	15		13.14	18.52	33.46
	"	"	30		13.12	18.51	33.44
	"	"	45		13.18	18.53	33.48
3742	36'52"	58'20"	0		13.65	18.46	33.35
	"	"	15		13.10	18.52	33.46
	"	"	30		13.16	18.53	33.48
	"	"	45		13.78?	18.53	33.48
3743	36'42"	58'08"	0		13.65	18.55	33.51
	"	"	15		13.29	18.53	33.48
	"	"	30		13.32	18.53	33.48
	"	"	45		13.25	18.53	33.48
3744	36'35"	57'58"	0		13.65	18.45	33.33
	"	"	15		13.34	18.53	33.48
	"	"	30		13.31	18.55	33.51
	"	"	45		13.25	18.55	33.51
3745	36'29"	57'48"	0		13.75	18.52	33.46
	"	"	15		13.32	18.54	33.49
	"	"	30		13.29	18.54	33.49
	"	"	45		13.04	18.53	33.48
3746	36'23"	58'44"	0		13.65	18.55	33.51
	"	"	15		13.25	18.51	33.44

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HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 117°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3746 12/19/55	36'23"	58'44"	30		13.22	18.53	33.48
	"	"	45		13.84	18.53	33.51
3747	36'32"	58'35"	0		13.57	18.50	33.42
	"	"	15		13.26	18.48	33.39
	"	"	30		13.18	18.53	33.48
	"	"	45		13.25	18.53	33.48
3748	36'40"	58'30"	0		13.60	18.52	33.46
	"	"	15		13.17	18.53	33.48
	"	"	30		13.13	18.53	33.48
	"	"	45		13.25	18.53	33.48
3751 12/20/55	36'30"	57'54"	0		13.45	18.58	33.57
	"	"	15		12.76	18.55	33.51
	"	"	30		13.06	18.55	33.51
	"	"	45		13.18	18.56	33.53
3752	36'37"	58'04"	0		13.75	18.34	33.13
	"	"	10		13.10	18.44	33.31
	"	"	25		13.47	18.57	33.55
	"	"	40		13.96	18.55	33.51
3753	36'44"	58'12"	0		13.80	18.13	32.75
	"	"	15		13.38	18.38	33.21
	"	"	30		13.38	18.55	33.51
	"	"	45		13.31	18.55	33.51
3754	36'52"	58'19"	0		13.80	17.81	32.18
	"	"	15		12.91	18.06	32.63
	"	"	30		13.33	18.45	33.33

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HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 117°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3754 12/20/55	36'52"	58'19"	45		13.35	18.59	33.58
3755	36'55"	58'28"	0		13.75	18.55	33.51
	"	"	15		13.33	18.57	33.55
	"	"	30		13.36	18.56	33.53
	"	"	45		13.39	18.57	33.55
3756	37'02"	58'40"	0		13.95	18.56	33.53
	"	"	15		13.55	18.56	33.53
	"	"	30		13.39	18.56	33.53
	"	"	45		13.25	18.55	33.51
3757	37'05"	58'48"	0		14.10	18.58	33.57
	"	"	15		13.68	18.58	33.57
	"	"	30		13.64	18.58	33.57
	"	"	45		13.40	18.56	33.53
3758	36'30"	58'44"	0		14.25	18.59	33.58
	"	"	15		13.68	18.59	33.58
	"	"	30		13.58	18.59	33.58
	"	"	45		13.60	18.58	33.57
3759	36'36"	58'36"	0		14.15	18.56	33.53
	"	"	15		13.77	18.58	33.57
	"	"	30		13.47	18.59	33.58
	"	"	45		13.38	18.58	33.57
3760	36'44"	58'30"	0		14.30	18.61	33.62
	"	"	15		13.57	18.59	33.58
	"	"	30		13.33	18.57	33.55

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 117°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3760 12/20/55	36'44"	58'30"	45		13.24	18.57	33.55
3761	38'45"	118° 01'04"	0		14.50	18.63	33.66
	"	"	5		14.22*	18.56	33.53
	"	"	20		14.06*	18.55	33.51
	"	"	35		13.78*	18.55	33.51
Whites Pt. 3878 2/2/56	42'02"	20'15"	0		12.80	18.19	32.86
	"	"	25		12.59	18.19	32.86
	"	"	75		12.57	18.31	33.08
	"	"	125		11.64	18.53	33.48
3879	42'03"	20'03"	0		13.00	18.19	32.86
	"	"	25		12.57	18.18	32.84
	"	"	75		12.47	18.35	33.15
	"	"	125		11.43	18.53	33.48
3880	42'04"	19'48"	0		13.00	18.18	32.84
	"	"	25		12.60	18.19	32.86
	"	"	75		12.51	18.30	33.06
	"	"	125		11.04	18.48	33.39
3881	42'05"	19'38"	0		12.95	18.21	32.90
	"	"	25		12.72	18.19	32.86
	"	"	75		12.49	18.37	33.19
	"	"	125		11.65	18.52	33.46
3882	42'06"	19'24"	0		13.00	18.20	32.88
	"	"	25		12.67	18.20	32.88
	"	"	75		12.38	18.38	33.21
	"	"	125		11.18	18.54	33.49

*From Bathythermograph Trace.

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3883 2/2/56	42'23"	20'28"	0		13.05	18.20	32.88
	"	"	25		12.71	18.16	32.81
	"	"	75		12.47	18.29	33.04
	"	"	125		11.66	18.51	33.44
3884	42'28"	20'38"	0		13.20	18.19	32.86
	"	"	25		12.69	18.19	32.86
	"	"	75		12.53	18.23	32.94
	"	"	125		11.81	18.51	33.44
3885	42'34"	20'44"	0		13.15	18.19	32.86
	"	"	25		12.66	18.16	32.81
	"	"	75		12.53	18.25	32.97
	"	"	125		11.92	18.49	33.40
3886	42'39"	20'58"	0		13.10	18.18	32.84
	"	"	25		12.82	18.17	32.83
	"	"	75		12.54	18.25	32.97
	"	"	125		12.09	18.52	33.46
3887	42'42"	21'16"	0		12.90	18.21	32.90
	"	"	25		12.80	18.18	32.84
	"	"	75		12.60	18.24	32.95
	"	"	125		12.05	18.49	33.40
3888	43'46"	24'03"	0		12.90	18.24	32.95
	"	"	25		12.78	18.24	32.95
	"	"	75		12.46	18.24	32.95
	"	"	125		12.00	18.43	33.30
3890 2/3/56	42'04"	19'33"				18.33	33.12

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3891 2/3/56	41'52"	19'58"			12.70	18.33	33.12
3892	41'43"	20'00"	0		12.95	18.32	33.12
	"	"	25		12.64	18.33	33.12
	"	"	75		12.72	18.43	33.30
	"	"	125		11.78	18.51	33.44
3893	41'34"	20'07"			13.10	18.33	33.12
3894	41'18"	20'14"	0		13.15	18.34	33.13
	"	"	25		12.65	18.35	33.15
	"	"	75		12.62	18.47	33.37
	"	"	500		8.91	18.85	34.05
3895	4~~9~~4'08"	24'51"	0		13.10	18.21	32.90
	"	"	25		12.60	18.23	32.94
	"	"	75		12.45	18.29	33.04
	"	"	125		11.82	18.50	33.42
3896	43'12"	22'03"	0		13.75	18.23	32.94
	"	"	25		13.01	18.22	32.92
	"	"	75		12.80	18.33	33.12
	"	"	125		11.93	18.45	33.33
3898 2/12/56	41'56"	19'25"	0		12.90	18.42	33.28
	"	"	25		12.47	18.47	33.37
	"	"	75		12.88	18.54	33.49
	"	"	125		11.68	18.53	33.48
3899	42'03"	19'50"	0		13.00	18.47	33.37
	"	"	25		12.59	18.46	33.35
	"	"	75		12.77	18.53	33.48

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3899 2/12/56	42'03"	19'50"	125		11.72	18.53	33.48
3900	42'10"	20'06"	0		13.00	18.47	33.37
	"	"	25		12.57	18.47	33.37
	"	"	75		12.64	18.51	33.44
	"	"	125		11.75	18.51	33.44
3901	42'18"	20'21"	0		13.00	18.47	33.37
	"	"	25		12.69	18.45	33.33
	"	"	75		12.98	18.53	33.48
	"	"	125		11.74	18.53	33.48
3902	42'26"	20'36"	0		13.60	18.45	33.33
	"	"	25		12.76	18.45	33.33
	"	"	75		12.74	18.47	33.37
	"	"	125		12.98	18.54	33.49
3903	42'33"	20'51"	0		13.10	18.47	33.37
	"	"	25		12.67	18.45	33.33
	"	"	75		13.01	18.53	33.48
	"	"	125		12.92	18.53	33.48
3904	42'42"	21'06"	0		13.50	18.43	33.30
	"	"	25		12.68	18.45	33.33
	"	"	75		13.00	18.53	33.48
	"	"	125			18.54	33.49
3905	42'49"	21'22"	0		13.20	18.44	33.31
	"	"	25		12.77	18.45	33.33
	"	"	75		13.52	18.52	33.46
	"	"	125			18.53	33.48

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat. 33°	Long. 118°	Bottle Depth (Feet)	Sigma t	Temp.	Cl.	S
3906 2/12/56	42'58"	21'37"	0		13.10	18.45	33.33
	"	"	25		12.55	18.45	33.33
	"	"	75		13.04	18.53	33.48
	"	"	125			18.49	33.40
3907	43'04"	21'53"	0		13.20	18.47	33.37
	"	"	25		12.64	18.46	33.35
	"	"	75		12.93	18.55	33.51
	"	"	125			18.54	33.49

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat.	Long.	Bottle	Sigma t	Temp.	Cl.	S
Whites Pt.							
1457 10/21/55	Bacteria Sta.					18.50	33.42
1501	"	"				18.51	33.44
1505	"	"				18.52	33.46
1508	"	"				18.52	33.46
1512	"	"				18.52	33.46
1515	"	"				18.50	33.42
1517	"	"				18.51	33.44
Orange Co.							
0918 12/19/55	"	"				18.42	33.28
0928	"	"				18.31	33.08
1002	"	"				18.53	33.48
1021	"	"				18.38	33.21
1043	"	"				18.43	33.30
1107	"	"				18.42	33.28
1135	"	"				18.07	32.65
1205	"	"				18.23	32.94
1342	"	"				17.52	31.65
1421	"	"				18.23	32.94
1447	"	"				18.05	32.61
1500	"	"				18.53	33.48
1042 12/19/55	"	"				18.57	33.55
1539	"	"				18.53	33.48
1543	"	"				18.41	33.26
1547	"	"				18.54	33.49
1551	"	"				18.56	33.53
1555	"	"				18.57	33.55

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.		Lat.	Long.	Bottle Depth	Sigma t	Temp.	Cl.	S
1559	12/19/55	Bacteria Sta.					18.58	33.57
1603		"	"				18.61	33.62
1607		"	"				18.55	33.51
1610		"	"				18.57	33.55
1614		"	"				18.56	33.53
1618		"	"				18.63	33.66
1622		"	"				18.61	33.62
1630		"	"				18.53	33.48
1634		"	"				18.57	33.55
1639		"	"				18.61	33.62
1644		"	"				18.57	33.55
1648		"	"				18.65	33.69
1655		"	"				17.88	32.30
#1	12/19-20/55	"	"				17.92	32.38
#2	"	"	"				18.38	33.21
#3	"	"	"				18.43	33.30
#4	"	"	"				18.41	33.26
#5	"	"	"				18.46	33.35
#6	"	"	"				17.94	32.41
#7	"	"	"				18.36	33.17
#8	"	"	"				18.41	33.26
#9	"	"	"				18.45	33.33
#10/o	"	"	"				18.46	33.35
#11	"	"	"				17.72	32.01
#12/1539	"	"	"				18.58	33.57

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.		Lat.	Long.	Bottle Depth	Sigma t	Temp.	Cl.	S
#13/1543	12/19-20/55	Bacteria	Sta.				18.60	33.60
#14/1547	"	"	"				18.60	33.60
#15/1551	"	"	"				18.64	33.68
#16/1555	"	"	"				18.64	33.68
#17/1559	"	"	"				18.64	33.68
#18/1603	"	"	"				18.62	33.64
#19/1607	"	"	"				18.65	33.69
#20/1610	"	"	"				18.59	33.58
#21/1614	"	"	"				18.72	33.82
#22/1618	"	"	"				18.57	33.55
#23/1622	"	"	"				18.61	33.62
#24/1627	"	"	"				18.66	33.71
#25/1630	"	"	"				18.57	33.55
#26/1634	"	"	"				18.62	33.64
#27/1639	"	"	"				18.64	33.68
#28/1644	"	"	"				18.59	33.58
#29/1648	"	"	"				18.66	33.71
#30/1655	"	"	"				17.90	32.34
#31	"	"	"				18.41	33.26
#32	"	"	"				18.40	33.24
#33	"	"	"				18.41	33.26
#34	"	"	"				18.41	33.26
#35	"	"	"				18.41	33.26
#36	"	"	"				18.11	32.72
#37	"	"	"				18.41	33.26

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat.	Long.	Bottle Depth	Sigma t	Temp.	Cl.	S
#38 12/19-20/55	Bacteria	Sta.				18.41	33.26
#39 "	"	"				18.48	33.39
#40 "	"	"				18.45	33.33
#41/1149 "	"	"				18.11	32.74
#42/1152 "	"	"				18.66	33.71
#43/1159 "	"	"				18.60	33.60
#44/1203 "	"	"				18.55	33.51
#45/1206 "	"	"				18.58	33.57
#46/1210 "	"	"				18.59	33.58
#47/1239 "	"	"				18.61	33.62
#48/1237 "	"	"				18.60	33.60
#49/1241 "	"	"				18.56	33.53
#50/1243 "	"	"				18.52	33.46
#51/1247 "	"	"				18.51	33.44
#52/1251 "	"	"				18.52	33.46
#53/1255 "	"	"				18.51	33.44
#54/1259 "	"	"				18.53	33.48
#55/1302 "	"	"				18.51	33.44
#56/1306 "	"	"				18.52	33.46
#51/1309 "	"	"				18.51	33.44
#58/1313 "	"	"				18.52	33.46
#59/1316 "	"	"				18.52	33.46
Whites Pt. #1 2/23/56	"	"				18.12	32.74
#2 "	"	"				18.17	32.83
#3 "	"	"				18.18	32.84

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.		Lat.	Long.	Bottle Depth	Sigma t	Temp.	Cl.	S
#4	2/2/3/56	Bacteria	Sta.				18.18	32.84
#5	"	"	"				18.17	32.83
#6	"	"	"				18.22	32.92
#7	"	"	"				18.27	33.01
#8	"	"	"				18.31	33.08
#9	"	"	"				18.28	33.03
#10	"	"	"				18.28	33.03
#19	"	"	"				18.41	33.26
#20	"	"	"				18.43	33.26
#21	"	"	"				18.39	33.22
#22	"	"	"				18.40	33.24
#23	"	"	"				18.46	33.35
#24	"	"	"				18.42	33.28
#25	"	"	"				18.43	33.30
#26	"	"	"				18.44	33.31
#27	"	"	"				18.42	33.28
#28	"	"	"				18.39	33.22
#29	"	"	"				18.44	33.31
#30	"	"	"				18.44	33.31
#31	"	"	"				18.36	33.17
#32	"	"	"				18.37	33.19
#33	"	"	"				18.41	33.26
#34	"	"	"				18.38	33.21
#35	"	"	"				18.39	33.22
#36	"	"	"				18.39	33.22

APPENDIX TO CRUISES

HYDROGRAPHIC STATIONS

Station No.	Lat.	Long.	Bottle Depth	Sigma t	Temp.	Cl.	S
#37 2/2-3/56	Bacteria	Sta.				18.42	33.28
#38 "	"	"				18.39	33.22
#39 "	"	"				18.45	33.33
#40 "	"	"				18.42	33.28
#41 "	"	"				18.44	33.31
#1 2/11/56	"	"				18.33	33.12
#2 "	"	"				18.40	33.24
#3 "	"	"				18.47	33.37
#4 "	"	"				18.43	33.30
#5 "	"	"				18.44	33.31

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

STATION LOCATIONS

Station No.	Lat 33°	Long 118°	Station No.	Lat 33°	Long 118°	Station No.	Lat 33°	Long 117°
3550	Whites Point		3624	41'43"	18'58"	3657	36'57"	58'24"
3551	42'05"	19'46"	3625	~~5~~41'33"	18'58"	3658	36'52"	58'13"
3552	42'00"	19'30"	3626	41'32"	19'02"	3659	36'43"	58'06"
3553	42'12"	20'00"	3627	41'17"	19'18"	3660	36'40"	57'55"
3554	41'48"	20'17"	3628	42'05"	19'50"	3661	36'38"	58'30"
3555	41'42"	19'22"	3629	42'06"	20'11"	3662	36'46"	58'21"
3556	41'45"	19'57"	3630	41'52"	19'37"	3663	37'00"	58'02"
3557	42'00"	20'09"	3631	Newport		3664	36'35"	58'35"
3558	41'44"	19'58"	3632	36'55"	117° 58'12"	3665	36'46"	58'21"
3559	41'31"	20'12"	3633	36'58"	58'24"	3666	37'02"	58'10"
3560	41'30"	19'42"	3634	36'52"	57'59"	3667	36'41"	57'52"
3561	36'52"	117° 58'15"	3635	36'48"	36'33"	3668	36'45"	58'06"
3563	36'55"	58'28"	3636	36'42"	57'33"	3669	~~2~~36'56"	58'22"
3564	37'03"	58'35"	3637	36'40"	57'18"	3670	37'02"	58'30"
3565	37'05"	58'42"	3638	36'33"	57'03"	3671	55'08"	118° 27'03"
3566	37'10"	58'56"	3639	36'28"	56'50"	3672	54'42"	28'12"
3567	36'12"	58'07"	3640	36'23"	56'36"	3673	54'24"	29'15"
3568	36'50"	58'01"	3649	Whites Point		3674	54'02"	30'21"
3569	36'02"	58'57"	3651	41'52"	118° 20'05"	3675	59'17"	29'05"
3619	42'03"	118° 19'07"	3652	42'05"	19'52"	3676	59'17"	31'07"
3620	41'49"	19'14"	3653	42'27"	20'27"	3677	59'17"	32'23"
3621	41'36"	19'18"	3654	37'12"	117° 58'38"	3678	49'44"	24'55"
3622	41'22"	19'32"	3655	Newport		3687	51'08"	31'52"
3623	41'57"	18'50"	3656	37'02"	58'30"	3700	58'16"	32'17"

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

STATION LOCATIONS

Station No.	Lat 33°	Long 118°	Station No.	Lat 33°	Long 117°	Station No.	Lat 33°	Long 118°
3703	58'31"	28'40"	3742	36'52"	58'20"	3785	54'03"	26'43"
3704	57'35"	27'42"	3743	36'42"	58'08"	3786	53'32"	26'48"
3705	57'28"	28'56"	3744	36'35"	57'58"	3787	53'36"	25'35"
3706	57'23"	30'10"	3745	36'29"	57'48"	3788	52'39"	24'55"
3707	57'18"	31'23"	3746	36'23"	58'44"	3789	52'34"	26'08"
3708	57'12"	32'36"	3747	36'32"	58'35"	3790	52'28"	27'22"
3709	57'08"	33'50"	3748	36'40"	58'30"	3791	53'25"	28'02"
3710	57'03"	35'02"	3749	Newport		3792	53'56"	27'55"
3711	55'58"	35'35"	3751	36'30"	57'54"	3793	54'26"	28'28"
3712	56'03"	34'20"	3752	36'37"	58'04"	3794	54'55"	29'24"
3713	56'08"	33'07"	3753	36'44"	58'12"	3795	55'21"	30'10"
3714	56'13"	31'58"	3754	36'52"	58'19"	3796	55'51"	29'52"
3715	56'19"	30'32"	3755	36'55"	58'28"	3797	55'16"	31'22"
3716	56'25"	29'30"	3756	37'02"	58'40"	3798	55'09"	32'34"
3717	56'30"	28'18"	3757	37'05"	58'48"	3799	54'10"	32'08"
3718	56'35"	27'03"	3758	36'30"	58'44"	3800	54'15"	30'55"
3719	56'02"	27'28"	3759	36'36"	58'36"	3801	54'21"	29'43"
3720	55'36"	26'32"	3760	36'44"	58'30"	3802	53'53"	29'06"
3721	55'31"	27'45"	3761	38'45"	118° 01'04"	3803	53'22"	29'15"
3737	Newport		3780	55'57"	28'40"	3804	52'22"	28'37"
3738	37'06"	117° 58'50"	3781	55'25"	28'57"	3805	Hyperion	
3739	37'02"	58'40"	3782	54'57"	28'13"	3806	55'10"	26'50"
3740	36'56"	58'30"	3783	55'02"	27'01"	3807	55'13"	26'58"
3741	Newport		3784	54'31"	27'15"	3808	55'22"	27'03"

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

STATION LOCATIONS

Station No.	Lat 33°	Long 118°	Station No.	Lat 33°	Long 118°	Station No.	Lat 33°	Long 118°
3809	55'32"	27'07"	3854	59'12"	35'13"	3879	42'03"	20'03"
3810	55'40"	27'11"	3855	58'43"	35'13"	3880	42'04"	19'48"
3811	55'48"	27'16"	3856	58'15"	35'13"	3881	42'05"	19'38"
3812	54'31"	26'41"	3857	57'43"	35'12"	3882	42'06"	19'24"
3813	54'38"	26'42"	3858	57'14"	35'11"	3883	42'23"	20'28"
3814	54'47"	26'43"	3859	57'33"	34'42"	3884	42'28"	20'38"
3815	54'55"	26'49"	3860	57'52"	34'15"	3885	42'34"	20'44"
3816	Hyperion		3861	58'09"	33'45"	3886	42'39"	20'58"
3817	55'06"	26'53"	3862	58'46"	32'47"	3887	42'42"	21'16"
3818	55'14"	26'57"	3863	59'23"	31'48"	3888	43'46"	24'03"
3819	55'23"	27'02"	3864	59'58"	30'48"	3889	Whites Point	
3820	55'32"	27'03"	3866	55'10"	27'04"	3890	42'04"	19'53"
3821	55'44"	27'13"	3867	55'00"	27'40"	3891	41'52"	19'58"
3822	55'52"	27'16"	3868	54'47"	28'13"	3892	41'43"	20'00"
3823	56'04"	27'23"	3869	54'27"	29'18"	3893	41'34"	20'07"
3824	56'14"	27'28"	3870	53'42"	31'33"	3894	41'18"	20'14"
3825	56'23"	27'30"	3871	52'16"	30'38"	3895	44'08"	24'51"
3826	56'35"	27'37"	3872	51'36"	29'32"	3896	43'12"	22'03"
3827	46'30"	26'29"	3873	51'11"	28'40"	3897	Whites Point	
3849	34° 01'08"	35'25"	3874	50'06"	26'38"	3898	41'56"	19'25"
3850	01'44"	35'04"	3875	49'18"	25'10"	3899	42'03"	19'50"
3851	00'43"	35'15"	3876	48'46"	24'07"	3900	42'10"	20'06"
3852	00'14"	35'36"	3877	Whites Point		3901	42'18"	20'21"
3853	33° 59'43"	35'14"	3878	42'02"	20'15"	3902	42'26"	20'36"

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

STATION LOCATIONS

Station No.	Lat 33°	Long 118°	Station No.	Lat 34°	Long 118°	Station No.	Lat 33°	Long 118°
3903	42'33"	20'51"	3927	00'07"	33'38"	4070	55'02"	27'04"
3904	42'42"	21'06"	3928	00'37"	33'44"	4071	54'57"	27'15"
3905	42'49"	21'22"	3929	01'06"	33'49"	4072	54'53"	27'26"
3906	42'58"	21'37"	3930	01'36"	33'55"	4073	54'47"	27'38"
3907	43'04"	21'53"	3953	00'45"	41'07"	4074	54'45"	27'50"
3908	46'45"	26'11"	3954	01'22"	41'09"	4075	54'42"	28'03"
3909	47'05"	26'31"	3955	33° 59'54"	41'06"	4076	54'37"	28'15"
3910	47'29"	26'53"	3956	59'00"	41'08"	4077	54'04"	27'17"
3911	47'55"	27'16"	3957	57'43"	41'01"	4078	54'16"	27'15"
3912	48'15"	27'37"	4055	53'58"	26'24"	4079	54'28"	27'09"
3913	49'03"	28'20"	4056	54'08"	26'28"	4080	54'37"	27'07"
3914	49'36"	29'11"	4057	54'14"	26'32"	4081	54'45"	27'00"
3915	49'52"	27'57"	4058	54'27"	26'37"	4082	54'55"	26'59"
3916	49'49"	26'46"	4059	54'37"	26'41"	4084	Hyperion	
3917	49'44"	25'35"	4060	54'46"	26'45"	4085	Hyperion	
3918	49'43"	24'57"	4061	54'56"	26'49"	4086	55'07"	26'52"
3919	49'41"	24'25"	4062	55'05"	26'53"	4087	54'50"	26'44"
3920	49'40"	23'54"	4063	55'14"	26'52"	4088	54'32"	26'39"
3921	55'08"	26'52"	4064	55'22"	26'52"	4089	54'15"	26'37"
3922	55'02"	27'32"	4065	55'33"	26'55"	4090	53'59"	26'32"
3923	54'48"	28'15"	4066	55'43"	26'50"	4091	Hyperion	
3924	54'36"	29'11"	4067	55'51"	26'50"	4092	53'45"	26'18"
3925	54'13"	30'16"	4068	55'58"	26'52"	4093	53'33"	26'05"
3926	59'04"	33'25"	4069	56'07"	26'51"	4094	53'22"	25'43"

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

STATION LOCATIONS

Station No.	Lat 33°	Long 118°	Station No.	Lat 33°	Long 118°
4095	53'11"	25'30"	4244	55'27"	26'37"
4096	53'00"	25'26"	4285	Hyperion	
		117°			
4097	36'49"	56'01"	4286	Hyperion	
4103	36'05"	57'05"	4287	55'08"	26'49"
4143	36'56"	58'48"	4288	Hyperion	
4216	Hyperion		4289	55'22"	26'58"
		118°			
4217	55'06"	26'53"	4290	55'48"	27'07"
4218	55'23"	27'06"	4291	55'28"	27'36"
4219	55'37"	27'10"	4292	55'45"	27'04"
4220	55'35"	27'12"	4293	56'02"	27'00"
4221	55'54"	27'35"	4294	55'52"	27'19"
4222	56'06"	27'48"	4295	56'14"	27'17"
4223	56'17"	27'50"	4296	56'38"	27'27"
4224	56'37"	27'53"			
4225	Hyperion				
4226	28'13"	29'26"			
4236	55'07"	26'56"			
4237	Hyperion				
4238	Hyperion				
4239	55'42"	27'28"			
4240	55'55"	27'29"			
4241	55'42"	26'55"			
4242	55'32"	26'28"			
4243	55'35"	26'32"			

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise 224

October 21, 1955

Cruise Description: A dye patch, over the Whites Point sewer outfall was followed for six hours. Water samples were collected for bacteria and nutrient determinations and cores were taken for bacteria study. Plankton hauls, bathythermograph casts, and Secchi disc readings were made at each station.

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
3550		Dye patch	0	0	18.50	23.0
					18.41	2.9
			1		18.50	23.0
					18.51	23.0
			2		18.50	6.2
					18.50	6.2
			4		18.50	23.0
					18.50	13.0
			6		18.50	2.3
					18.50	6.2
						MPN/100 gr.
3551		Grid				1,900
3552						500,000 +
3553						350,000
3554						320,000 +
3555						330,000 +
3556						600,000 +
3557						240,000 +
3558						600
3559						6,200
3560						700,000 +

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise 224

October 22, 1955

Cruise Description: A dye patch, placed in the Orange County sewer boil was followed for six hours. Surface and subsurface water samples were obtained for bacterial and nutrient study and bottom samples were taken for bacterial observations.

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
		Dye patch	0		17.89	35,000
					17.90	17,000
			1		18.33	13,000
					18.33	4,600
			2		18.35	1,100
					18.36	4,900
			4		18.54	130
					18.50	79
			6		18.50	26
					18.50	23
3561		Profile (line from bubble)		0	18.01	70,000
				15	18.50	2,300
				30		62
				45	18.51	23
				M	18.28	10,000
3563		"		0	18.31	6,200
				15	18.48	6,200
				30		620
				45	18.51	2,300
				M	18.41	180
3564		"		0	18.52	230
				15	18.55	2.3
				30		62
				45	18.54	23
				M	18.53	210
3565		"		0	18.54	13
				15		50
				30		2
				45		6.2
				M	18.55	230
3566		"		0	18.55	23
				15	18.54	13
				30		6.2
				45	18.53	23
				M	18.55	520

Cruise 224

October 22, 1955

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
3567		Profile (opposite side of bubble)		0	18.43	70,000
				15	18.54	2,300
				30		23
				45	18.53	62
				M	18.38	1,600
3568		"		0	18.46	2,300
				15	18.48	23
				30		230
				45	18.53	no sample
				M	18.50	930

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise 226

November 3, 1955

Cruise Description: Three bacteria profiles were obtained in the vicinity of the inner boil at the Whites Point sewage outfall. Cores were then taken for bacterial determination and water samples at hydrographic stations were analyzed for nutrients.

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
3619		Grid				Neg at 24 m.
3620						"
3621						"
3622						"
3623						"
3625						"
3626						"
3627						"
3624A		Dye patch	0			6,200
3624B			0			2,300
3628		Profile		0		2,300
				25		6,200
				40		24,000
				70		nil
				100		2.3
				M		nil
3629		"		0		620
				25		23
				40		230
				70		6.2
				100		2,300
3630		"		0		nil
				25		"
				40		"
				70		"
				100		"

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise 226

November 4, 1955

Cruise Description: Nine hydrographic and bacteria stations were occupied in a line extending downcoast from the Orange County sewer outfall. Water and bottom samples were analyzed for bacteria and nutrients. A dye patch, placed over the outfall was followed for four hours.

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
3631		Dye patch	0			13,000
						24,000
			2			170
						490
			4			240
						540
3632		Profile		0		24,000
				15		230
				25		620
				45		6.2
				M		nil
3633		Profile		0		2,300
				15		230
				25		2,300
				45		23
				M		nil
3634		"		0		>700
				15		23
				25		62
				45		6.2
				M		60
3635		"		0		>700
				15		62
				25		62
				45		23
				M		2,300
3636		"		0		700
				15		62
				25		13
				45		4.6
				M		60

Cruise 226

November 4, 1955

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
3637		"		0		23
				15		62
				25		23
				45		2.3
				M		2,300
3638		"		0		240
				M		130
3639		"		0		6.2
				M		nil
3640		"		0		6.2
				M		nil

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise 228

November 17, 1955

Cruise Description: Subsurface samples were taken by divers in the vicinity of the Whites Point sewage outfall. These samples, along with cores, were taken for bacterial analysis. Two bacteria profiles were made; one at the outfall, and one at the end of the divers' track.

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (in)	Cl.	Coliforms MPN/ML
3649		Divers	0			70,000 +
						2,300
			2			6,200
						70,000
3651A		Sediment (core)		0		6
3651B				0		nil
3651B				1		nil
3651B				5		23
3651C						23
3651D						23
				(ft)		
3652		Profile (outfall)		0		70,000
				15		6,200
				40		70,000
				80		6,200
				115		24,000
3653		Profile (2nd diver station)		0		130
				15		62
				40		62
				80		240
				115		2,400

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise 228

November 18, 1955

Cruise Description: Sixteen hydrographic and bacteriological stations were occupied in the vicinity of the Orange County sewage outfall. Water samples were taken for bacterial content and nutrient determination. A dye patch was placed in the boil and followed for eight hours.

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
3655		Dye patch	0			92,000
						160,000
			2			3,300
						2,100
			4			2,400 +
						72
			6			1.3
						28
3654		Profile		0		2,300
				15		2,300
				30		70,000 +
				45		230
3656		"		0		2,300
				15		2,300
				30		70,000 +
				45		130
3657		"		0		620
				15		13,000
				30		70,000
				45		620
3658		"		0		70,000
				15		2,300
				30		2,300
				45		13,000
3659		"		0		6,200
				15		620
				30		2.3
				40		23
3660		"		0		620
				15		6.2
				30		230
				45		62

Cruise 228

November 18, 1955

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
3661		Profile		0		6.2
				15		95
				30		0.6
				45		23
3662		"		0		6,200
				15		620
				30		6,200
				45		230
3663		"		0		2,300
				15		5,000
				30		620
				45		62
3664		"		0		23
				15		62
				30		0.5
				45		23
				M		nil
3665		"		0		620
				15		23
				30		2.3
				45		23
3666		"		0		23
				15		2,300
				30		50
				45		620
				M		13
3667		"		0		620
				15		620
				30		62
				45		50
3668		"		0		21,000
				15		2,300
				30		62
				40		230
3669		"		0		50
				15		620
				30		230
				45		23
3670		"		0		6.2
				15		23
				30		62
				45		230

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise 230

November 30 to December 1, 1955

Cruise Description: On both days, core and snapper samples of bottom sediment in Santa Monica Bay were collected. Bacteria samples were taken at each station from the surface sediment. On the 30th, the Eckman current meter was employed at the anchor station.

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms* MPN/ML
3678 to 3703		Sediment				nil
3704		"				6
3705 to 3713		"				nil
3714		"				23
3715		"				nil
3716		"				130
3717		"				nil
3718		"				240
3719		"				6
3720		"				700
3721		"				nil

* All samples checked for enteric pathogens.
Tetrathionate + S.S. agar showed growth in only two samples:
3686 - aeroleic spore former on triple sugar iron agar.
3715 - no growth on triple sugar iron agar.
No suspicious colonies (pathogens) noted on EMB agar. Mostly flat, spreading, rough (spore former) types.

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise 233

December 19-20, 1955

Cruise Description: Both days were spent in the vicinity of the Orange County sewer outfall using dye marker to track portions of the sewage field. Water samples were taken for bacteria study. Hydrographic stations were occupied near the boil to obtain water samples for nutrient determinations. Hydrophotometer and plankton casts were made at each station.

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
3737		Dye patch	0		17.92	17,000
			1		18.38	700
			2		18.43	490
			3		18.41	46
			4		18.46	7
3741		"	0		17.94	17,000
			1		18.36	2,300
			2		18.41	1,100
			3		18.45	790
			3:45		18.46	490
3749		"	0		18.41	3,300
			1:15		18.40	3,300
			2		18.41	4,900
			3		18.41	2,200
			4		18.41	79
3700		"	0		18.11	35,000
			1		18.41	3,300
			2		18.41	430
			3		18.48	46
			4		18.45	28
		Storage Exper.	0-A			70,000
			2-A			70,000
			4-A			24,000
			6-A			13,000
			0-B			24,000
			2-B			24,000
			4-B			6,200
			6-B			2,300
#11	?	Surface Samples			17.72	24,000
#12	1539	"			18.58	620

Cruise 233

December 19-20, 1955

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
#13	1543	"			18.60	6.20
#14	1547	"			18.60	2.30
#15	1551	"			18.64	0.60
#16	1555	"			18.64	nil
#17	1559	"			18.64	0.46
#18	1603	"			18.62	nil
#19	1607	"			18.65	0.60
#20	1610	"			18.59	nil
#21	1614	"			18.72	0.60
#22	1618	"			18.57	0.60
#23	1622	"			18.61	nil
#24	1627	"			18.66	0.60
#25	1630	"			18.57	0.60
#26	1634	"			18.62	nil
#27	1639	"			18.64	nil
#28	1644	"			18.59	nil
#29	1648	"			18.66	nil
#30	1655	"			17.90	70,000
#41	1149	"			18.11	70,000
#42	1152	"			18.66	2.30
#43	1159	"			18.60	2.30
#44	1203	"			18.55	0.60
#45	1206	"			18.58	nil
#46	1210	"			18.59	nil
#47	1234	"			18.61	nil
#48	1237	"			18.60	0.60
#49	1241	"			18.56	nil
#50	1243	"			18.52	0.60
#51	1247	"			18.51	0.60
#52	1251	"			18.52	nil
#53	1255	"			18.51	nil
#54	1259	"			18.53	nil
#55	1302	"			18.51	nil
#56	1306	"			18.52	nil
#57	1309	"			18.51	nil
#58	1313	"			18.52	nil
#59	1316	"			18.52	nil

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise 234

December 30, 1955

Cruise Description: Twenty-five bottom sediment samples were obtained for bacteria analysis. Stations were in the general vicinity of the Hyperion outfall and extended as far as five miles to sea.

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms* MPN/ML
3780		Sediment				nil
3781		"				6.10
3782		"				1.80
3783		"				4.50
3784		"				nil
3785		"				2.00
3786		"				9.30
3787		"				1.80
3788		"				2.00
3789		"				nil
3790		"				nil
3791		"				2
3792		"				2
3793		"				6.10
3794		"				4.50
3795		"				nil
3796		"				nil
3797		"				nil
3798		"				nil
3799-C		"				nil
3800		"				nil
3801		"				nil
3802		"				nil
3803		"				nil
3804-S		"				4.50
3804-C		"				nil

* All samples checked for enteric pathogens. All results negative using tetrationate broth and S.S. agar.

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise 235

January 12-13, 1956

Cruise Description: On both days dye patches, placed in the boil of the Hyperion sewer outfall, were followed. Hydrographic stations were established in lines paralleling the shore and water samples were collected for bacteria and nutrient determinations. At each station plankton hauls were made and transparency of water was recorded.

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
3805		Dye patch	0		17.45	13,000
			1		18.12	3,300
			2		18.10	1,300
			4		18.38	330
			6		18.39	23
3816		"	0		18.08	11,000
3806		Profile		0	17.91	13,000
				15		24,000
				30		130
				45		130
3807		"		0	17.86	24,000
				15		nil
				30		nil
				45		nil
3808		"		0	18.37	0.60
				15		620
				30		6.20
				45		23
3809		"		0	18.40	5,000
				15		23
				30		62
				45		23
3810		"		0	18.32	62
				15		620
				30		23
				45		230
3811		"		0	18.51	620
				15		230
				30		6.20
				45		23

Cruise 235

January 12-13, 1956

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
3811		Profile		0	18.51	620
				15		230
				30		6.20
				45		23
3812		"		0	18.69	nil
				10		nil
				25		nil
				40		1.30
3813		"		0	18.72	nil
				10		nil
				25		nil
				40		1.30
3814		"		0	18.33	2,300
				10		2,300
				25		230
				40		0.60
3815		"		0	18.45	2,300
				10		5,000
				25		6.20
				40		6.20
3817		"		0	17.98	70,000 +
				15		13,000
				25		620
				45		2,300
3818		"		0	18.39	2,300
				15		2,300
				25		130
				45		62
3819		"		0	18.36	24,000
				15		62
				25		23
				45		620
3820		"		0	18.29	2,300
				15		2,300
				25		62
				45		23
3821		"		0	18.65	62
				15		23
				20		23
				45		2.30
3822		"		0	18.54	5,000
				15		62
				20		0.60
				45		23
3823		"		0	18.53	2,300
				15		62
				20		0.60
				45		230

Cruise 235

January 12-13, 1956

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
3824		Profile		0	18.58	23
				10		23
				20		62
				40		23
3825		"		0	18.48	620
				15		230
				25		6.20
				45		620
3826		"		0	18.43	2,300
				15		6.20
				25		2.30
				45		13

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise 237

February 2, 1956

Cruise Description: Ten bacteria and hydrographic stations were occupied in a line parallel to shore, extending upward from the Los Angeles County sewer outfall. Coincidentally, a dye patch was placed in the boil of the nearshore outfall and followed for six hours.

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms* MPN/ML
3877		Dye patch	0		18.12	43,000
			1		18.17	160,000
			2		18.02	240,000 +
			4		18.02	160,000
			6		18.01	240,000 +

* Results questionable - plugs were accidentally soaked with polluted water.

APPENDIX TO CRUISES

BACTERIA AND NUTRIENTS

Cruise 237

February 3, 1956

Cruise Description: Four bacteria profiles were taken on a line extending seaward from the outer Los Angeles County sewer outfall. A dye patch was followed from the inner boil. Several hydrographic stations were occupied and a grid of stations was run in which samples were taken for bacterial study.

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
3889		Dye patch	0		18.22	240,000 + *
			1		18.27	22,000 *
			2		18.31	24,000 + *
			4		18.28	13 *
			6		18.28	64 *
		Dye toxicity** (with dye)	0			1.30
			1 3/4			120
			4			6,200
			6			620
		Dye toxicity (without dye)	0			21
			1 3/4			6,200
			4			620
			6			6,200
#19		Grid		0	18.41	.60
#20					18.43	.60
#21					18.39	nil
#22					18.40	23
#23					18.46	230
#24					18.42	6,200
#25					18.43	620
#26					18.44	6,200
#27					18.42	2,300
#28					18.39	620
#29					18.44	23
#30					18.44	.60

* Results questionable - plugs were accidentally soaked with polluted water.

** Experiment carried out with 0.015% fluorescein in sea water. Highest concentration of dye in actual samples: $5 \times 10^{-6}\%$ in 3877-4; $1 \times 10^{-5}\%$ in 3889-1.

Cruise 237

February 3, 1956

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
#31					18.36	6.20
#32					18.37	62
#33					18.41	230
#34					18.38	2,300
#35					18.39	1,300
#36					18.39	620
#37					18.42	62
#38					18.39	6.20
#39					18.45	1,300
#40					18.42	6,200
#41					18.44	2,300
3878		Profile		0	18.19	nil
				15	18.19	.60
				50	18.31	nil
				85	18.53	230
				120		230
3879		"		0	18.19	2.30
				15	18.18	nil
				50	18.35	nil
				85	18.53	nil
				120		nil
3880		"		0	18.18	lost
				15	18.19	lost
				50	18.30	24,000
				85	18.48	lost
				120		lost
3881		"		0	18.21	nil*
				15	18.19	lost
				50	18.37	nil
				85	18.52	lost
				120		23*
3882		"		0	18.20	lost
				15	18.20	lost
				50	18.38	6.20*
				85	18.54	nil
				120		13***
3883		"		0	18.20	nil*
				15	18.16	62
				50	18.29	620
				85	18.51	6.20*
				120		210*
3884		"		0	18.19	.60*
				15	18.19	5*
				50	18.23	620
				85	18.51	12*
				120		nil

* Results questionable - plugs were accidentally soaked with polluted water.

*** Muddy sample.

Cruise 237

February 3, 1956

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
3885		Profile		0	18.19	nil
				15	18.16	nil
				50	18.25	nil
				85	18.49	nil
				120		6.20
3886		"		0	18.18	nil
				15	18.17	nil
				50	18.25	.46(?)
				85	18.52	23(?)
				120		6.2
3887		"		0	18.21	lost
				15	18.18	lost
				50	18.24	lost
				85	18.49	lost
				120		lost
3888		"		0		23*
3890		"		0	18.33	nil
				15		6,200
				50		2,300
				85		230
				120		6,200
3891		"		0	18.33	2.30
				15		.60
				50		nil
				85		nil
				120		230
3892		"		0	18.32	nil*
				15	18.33	.60*
				50	18.43	nil
				85	18.51	nil
				120		230
3893		"		0	18.33	nil
				15		nil
				50		nil
				85		nil
				120		2.30

* Results questionable - plugs were accidentally soaked with polluted water.

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise 238

February 12, 1956

Cruise Description: A dye patch was released into the inner sewage boil at the Whites Point outfall and followed for six hours. Hydrographic, bacteria, and hydrophotometer stations were occupied in a line paralleling the shore. Water samples were taken for bacteria and nutrient determinations and plankton and bathythermograph casts were made at each station.

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
3877		Dye patch	0			2,300
			1			1,400
			2			950
			4			95
			6 1/3			230
		Dye toxicity (dye)	0-A			2,300
			0-B			6,200
			2-A			6,200
			2-B			62
			4-A			2,300
			4-B			6,200
			6-A			6,200
			6-B			2,300
		Dye toxicity (control)	0-A			2,100
			0-B			24,000
			2-A			2,300
			2-B			6,200
			4-A			2,300
			4-B			6,200
			6-A			2,300
			6-B			2,300
3898		Profile		0		6,200
				15		6,200
				65		130
				95		6,200
				125		6.20
3899		"		0		2,300
				15		6,200
				65		2,300
				95		6,200
				125		230

Cruise 238

February 12, 1956

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
3900		Profile		0		2,300
				15		2,300
				65		230
				95		620
				125		2,300
3901		"		0		6,200
				15		2,300
				65		6.20
				95		nil
				125		2,300
3902		"		0		nil
				15		620
				65		2,100
				95		24,000
				125		62
3903		"		0		24,000
				15		2,300
				65		62
				95		nil
				125		62
3904		"		0		130
				15		2,300
				65		230
				95		62
				125		620
3905		"		0		62
				15		230
				65		620
				95		6,200
				125		230
3906		"		0		620
				15		2,300
				65		23
				95		23
				125		230
3907		"		0		230
				15		2,300
				65		70,000
				95		6,200
				125		2,300

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise 243

March 8, 1956

Cruise Description: Two grids were run in the vicinity of the Hyperion outfall. The grids were located between two dye patches started almost simultaneously on opposite poles of the boil and were rectangular in shape.

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
#1		Grid - 1		0	18.70	620
#2					18.54	5,000
#3					18.90	1,300
#4					19.05	2,300
#5					18.93	24,000
#6					19.23	2,300
#7					18.61	6,200
#8					18.79	70,000
#9					18.46	24,000
#10					18.30	6,200
#11					19.00	13,000
#12					18.48	24,000
#13					18.67	6,200
#14					18.65	6,200
#15					18.79	2,300
#16					18.55	2,300
#17					18.80	6,200
#18					18.72	6,200
#19					18.82	620
#20					18.89	230
#21					18.80	2,300
#22					18.87	2,300
#23					18.80	2,300
#24					18.81	2,300
#25					18.77	2,300
#26					18.77	2,300
#27					18.95	2,300
#28					18.75	2,300
#29					18.74	2,300
#30					18.83	2,300
#31					18.22	2,300
#32					18.14	6,200

Cruise 243

March 8, 1956

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
#33		Grid - 1		0	18.39	70,000
#34					18.47	2,300
#35					18.50	6,200
#36					18.57	2,300
#37					18.53	2,300
#38					18.54	2,300
#39					18.55	230
#40					18.56	620
#41					18.59	2,300
#42					18.64	210
#43					18.60	2,300
#44					18.68	2,300
#45					18.51	620
#46					18.75	2,300
#47					18.53	6,200
#48					18.58	6,200
#49					18.57	2,300
#50					18.41	5,000
#51		Grid - 2		0	18.71	95
#52					18.49	230
#53					18.58	620
#54					18.68	2,300
#55					18.70	2,300
#56					18.51	2,300
#57					18.45	6,200
#58					18.49	70,000
#59					18.43	24,000
#60					18.34	24,000
#61					18.33	24,000
#62					18.38	6,200
#63						24,000
#64					18.47	6,200
#65					18.58	2,300
#66					18.54	6,200
#67					18.71	620
#68					18.60	2,300
#69					18.61	620
#70					18.59	2,300
#71					18.60	2,300
#72					18.61	620
#73					18.63	6,200
#74					18.56	620
#75					18.72	70,000 +
#76					18.53	6,200
#77					18.60	6,200
#78					18.47	6,200
#79					18.57	24,000
#80					18.49	70,000 +

Cruise 243

March 8, 1956

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
#81					18.53	24,000
#82					18.59	6,200
#83					18.53	13,000
#84					18.59	2,300
#85					18.65	6,200
#86					18.84	24,000
#87					18.63	620
#88					18.74	620
#89					18.94	230
#90					18.65	620
#91					18.83	230
#92					18.64	620
#93					18.58	62
#94					18.45	620
#95					18.50	620
#96					18.37	2,300
#97					18.36	6,200
#98					18.25	6,200
#99					18.27	70,000
#100					18.32	13,000
XX		(Composite sample from boil)				70,000 +

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise 248

April 17, 1956

Cruise Description: Primary unchlorinated effluent was released at the Hyperion Treatment Plant. Two dye patches were released in the center of the seven sewage boils and followed. Surface water samples were taken for bacteria determinations over grids covering the dye patch areas. Bacteria profiles were then made, with hydrophotometer casts at each profile station.

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
4084		Dye patch	0		17.80	54,000
			2		18.11	17,000
			4		18.20	490
			6		18.33	4.90
			8		18.37	13
4085		"	0		17.84	24,000
			2		18.01	7,900
			4		18.19	1,300
			6		18.36	1.70
			8		18.40	1.30
4091						
#11		Grid - 1		0	18.41	2,300
#12					18.15	24,000
#13					18.20	5,000
#14					18.25	6,200
#15					18.27	2,300
#16					18.23	1,300
#17					18.12	13,000
#18					18.23	70,000
#19					18.25	2,300
#20					18.15	6,200
#21					18.17	2,300
#22					18.23	2,300
#23					18.13	70,000
#24					18.24	6,200
#25					18.28	5,000
#26					18.17	6,200
#27					18.11	2,300
#28					18.14	2,300
#29					18.16	13,000

Cruise 248

April 17, 1956

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
#30		Grid - 1		0	18.16	2,300
#31					18.26	6,200
#32					18.25	6,200
#33					18.31	2,300
#34					18.28	2,100
#35					18.27	6,200
4097						
#36		Grid - 2	0		18.35	6,200
#37					18.32	2,300
#38					18.32	62
#39					18.31	620
#40					18.29	230
#41					18.32	230
#42					18.27	620
#43					18.29	1,300
#44					18.32	230
#45					18.32	230
#46					18.32	62
#47					18.34	230
#48					18.31	230
#49					18.32	62
#50					18.34	50
#51					18.32	620
#52					18.35	620
#53					18.36	130
#54					18.35	62
#55					18.34	230
#56					18.32	230
#57					18.31	500
#58					18.32	620
#59					18.33	62
#60					18.35	23
4086		Profile		0	18.00	24,000
				15	18.21	70,000 +
				30	18.58	230
				45	18.62	130
4087		"		0	18.27	6,200
				15	18.49	2,300
				30	18.60	1,300
				45	18.60	130
4088		"		0	18.04	24,000
				15	18.47	5,000
				30	18.60	620
				45	18.60	62
4089		"		0	18.18	24,000
				15	18.39	6,200
				30	18.61	620
				45	18.61	21

Cruise 248

April 17, 1956

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
4090		Profile		0	18.37	230
				15	18.55	130
				30	18.57	62
				45	18.61	2,300
4092		"		0	18.13	6,200
				15	18.48	23
				30	18.59	62
				45	18.61	62
4093		"		0	18.24	13,000
				15	18.49	23*
				30	18.54	62
				45	18.55	23
4094		"		0	18.13	1,300
				15	18.50	2,300
				30	18.51	230
				45	18.56	2.30
4095		"		0	18.17	230
				15	18.48	62
				30	18.53	nil
				45	18.49	23
4096		"		0	18.29	62
				15	18.38	62
				30	18.50	0.60
				45	18.55	0.60

* Muddy sample.

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise 249

April 21-22, 1956

Cruise Description: Bottom sediment samples were collected in the vicinity of the Orange County sewage outfall through the use of divers, a bacterial bottom sampler, and a snapper. Secchi disc and surface temperature readings were obtained for each sampling position. Water transparencies were noted in the morning and evening.

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/CM^2
#1*		Sediment				250
#2*						2,500
#3*						920
#4*						52,000
#5*						25,000
#6A						25,000
#6B						5,200
#6D^1*						9,200
#6D^2*						25,000
#7						9,200
#8						520
#9						92
#10						nil
#11*						52
#12*						5,200
#13*						920
#14*						9,200
#15*						no sample
#16*						25,000
#17*						25,000
#18						24
#19						no sample
#20						92
#21*						5,200
#22*						2,500

* Diver samples.

Cruise 249

April 21-22, 1956

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/CM^2
#23*						25,000
#24*						25,000
#25*						9,200
#26*						9,200
#27**						9,200
#28						920
#29**						520
#30**						92
#31*						250
#32*						920
#33*						250
#34*						520
#35*						520
#36						92
#37						80
#38						24
#39						250
#40						24
#41*						nil
#42*						520
#43*						200
#44*						250
#45*						920
#46						920
#47						920
#48						92
#49						nil
#50						nil
#51*						24
#52*						24
#53*						250
#54*						250
#55*						200
#56						250
#57						24
#58						52
#59						920
#60						92
#61*						92
#62*						nil
#63*						nil
#64*						18
#65*						24
#66						2,500
#67						250

* Diver samples.
** Snapper samples.

Cruise 249

April 21-22, 1956

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/CM^2
#68						92
#69						250
#70						nil
#71*						nil
#72*						nil
#73*						24
#74*						24
#75*						nil
#76						52
#77						24
#78						92
#79						250
#80						nil
#81*						24
#82*						nil
#83*						24
#84*						nil
#85*						24
#86						2,500
#87						92
#88						920
#89						nil
#90						24
#91*						920
#92*						nil
#93*						24
#94*						nil
#95*						24
#96						nil
#97						250
#98						24
#99						250
#100						24

* Diver samples.

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise 252

May 8, 1956

Cruise Description: A profile series of bacteria stations were run. Primary effluent was discharged from the ~~Whites Point~~ outfall and followed through the use of dye patches.

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
		Dye toxicity (with dye*)	0-A			23
			0-B			620
			2-A			6.2
			2-B			6.2
			4-A			nil
			4-B			nil
			6-A			0.46
			6-B			0.6
		Dye toxicity (without dye)	0-A			62
			0-B			23
			2-A			2.3
			2-B			6.2
			4-A			0.6
			4-B			0.46
			6-A			nil
			6-B			nil
4216A		Dye patch	0		17.57	24,000
			2		18.12	3,300
			4		18.08	230
			6		18.32	7
			8		18.20	0.45
4216B		"	0		17.79	13,000
			2		18.04	3,300
			4		18.18	11
			6		18.21	7
			8		18.21	2.3-
4217		Profile		0	17.74	23
				15	18.52	620
				30	18.66	620
				45	18.68	230
4218		"		0	18.06	6,200
				15	18.64	6.2
				30	18.68	130
				45	18.66	23

* 0.01% fluorescein dye.

Cruise 252

May 8, 1956

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
4219		Profile		0	18.39	2,300
				15	18.68	1,300
				30	18.66	23
				45	18.50	50
4220		"		0	17.93	130
				15	18.68	13
				30	18.62	0.6
				45	18.66	0.6
4221		"		0	18.43	62
				15	18.56	23
				30	18.67	23
				45	18.60	6.2
4222		"		0	18.51	62
				15	18.64	230
				30	18.69	nil
				45	18.67	nil
4223		"		0	17.83	230
				15	18.59	230
				30	18.63	5
				45	18.67	nil
4224		"		0	18.29	6.2
				15	18.69	62
				30	18.64	nil
				45	18.67	5
4225						
#11		Grid -1		0	18.03	2,300
#12					18.00	6,200
#13					17.88	6,200
#14					17.76	1,300
#15					17.74	6,200
#16					17.91	6,200
#17					17.72	130
#18					17.74	24,000
#19					17.69	2,300
#20					17.73	1,300
#21					17.93	2,300
#22					17.97	24,000
#23					17.87	2,300
#24					17.91	2,300
#25					18.03	6,200
#26					17.86	5
#27					17.79	2,300
#28					17.75	13,000
#29					17.78	70,000
#30					17.84	1,300
#31					17.98	2,300
#32					18.03	6,200
#33					18.02	2,300
#34					18.03	1,300
#35					18.02	2,300

Cruise 252

May 8, 1956

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
4226						
#36		Grid - 2		0	18.31	13
#37					18.29	23
#38					18.23	6.2
#39					18.18	23
#40					18.15	62
#41					18.15	6.2
#42					18.15	6.2
#43					18.14	62
#44					18.24	62
#45					18.19	23
#46					18.25	23
#47					18.19	23
#48					18.20	23
#49					18.16	62
#50					18.16	230
#51					18.16	23
#52					18.16	6.2
#53					18.20	23
#54					18.19	62
#55					18.24	50
#56					18.29	23
#57					18.22	62
#58					18.20	23
#59					18.20	62
#60					18.19	62

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise 254

May 22-23, 1956

Cruise Description: Radioactive scandium (46) was released through the pipe at the ~~Los Angeles County~~ sewer outfall. The radioactive field was followed by dye patch and by the cruising over of various grid patterns. Hydrographic stations were spaced along the grid.

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
4237		Dye patch	0		17.81	13,000
			2		18.18	6,400
			4		18.16	54,000
			6		18.15	130
			8		18.29	23
			9½		18.18	79
4238		"	0		17.50	54,000
			2		18.16	13,000
			4		18.10	330
			6		18.19	700
			8		18.09	330
			10		18.13	33
May 22	1144	Surface		0	18.24	6,200
	1414	sample			18.15	5,000
	1427				18.29	2,300
	1439				18.29	2,300
	1440				18.28	620
	1444				18.26	230
	1506				18.26	620
	1700				18.24	620
	1705				18.34	230
	1732				18.30	62
	2155				18.27	620
May 23	0953				18.50	6.2
4236	0830	Profile		0*	17.90	13,000
				0	18.36	6,200
				15	18.27	6,200
				30	18.60	620
				45	18.63	24,000

* In sewage boil.

Cruise 254

May 22-23, 1956

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
4239	1030	Profile		0	18.26	5,000
				15	18.62	2,300
				30	18.62	23
				45	18.54	230
4240	1315	"		0	18.39	620
				15	18.56	13
				30	18.64	0.6
				45	18.88	23
4241	1540	"		0	18.33	2,300
				15	18.36	230
				30	18.65	230
				45	18.61	62
4242	1815	"		0	18.33	620
				10	18.35	230
				20	18.54	230
				30	18.58	130
4243	2210	"		0	18.26	62
				10	18.34	62
				20	18.40	230
				30	18.70	23
4244	0040	"		0	18.67	62
				10	18.44	62
				20	18.59	0.6
				30	18.78	2.3

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise 258

June 11-12, 1956

Cruise Description: On the first day of the cruise, subsurface water motion in the vicinity of the Hyperion ~~Los Angeles County~~ sewage outfall was investigated using floats and current crosses. On the 12th, a bacteria survey was run on primary effluent in the Hyperion area.

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
4285A	0600	Dye patch	0	0	16.44	240,000 +
			2*		17.82	17,000
4285B	0630	"	0		17.41	92,000
			2*		17.92	17,000
			4		17.83	1,300
			5½		18.05	79
4288	0915	"	0		17.53	35,000
			2		17.96	2,200
			4		18.03	49
			5		18.11	70
4286A						
#11	0800	Grid-1		0	18.13	620
#12					17.87	70,000 +
#13					18.07	24,000
#14					17.63	70,000
#15					17.83	24,000
#16					17.86	13,000
#17					17.75	24,000
#18					17.85	24,000
#19					17.81	6,200
#20					17.75	24,000
#21					17.69	24,000
#22					17.79	13,000
#23					17.76	21,000
#24					17.80	6,200
#25					17.83	24,000
#26					17.78	70,000
#27					17.65	24,000
#28					17.77	70,000 +
#29					17.74	24,000

* 4285 A and 4285 B merged between 2 and 4 hour periods

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise 258

June 11-12, 1956

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth	Cl.	Coliforms MPN/ML
4286A						
#30					17.73	24,000
#31					18.03	6.2
#32					18.06	6.2
#33					17.82	2.9
#34					17.94	6,200
#35					17.87	5,000
4286B						
#36	1200	Grid-2		0	18.17	130
#37					18.22	2,300
#38					18.22	23
#39					17.99	620
#40					17.93	230
#41				0	18.15	6.2
#42					17.89	62
#43					17.94	62
#44					18.20	6.2
#45					18.19	62
#46					18.10	230
#47					17.96	230
#48					18.47	230
#49					18.32	23
#50					18.11	620
#51					18.01	620
#52					18.03	620
#53					18.10	2,300
#54					18.21	23
#55					18.10	1,300
#56					18.19	620
#57					18.02	620
#58					18.19	620
#59					18.18	230
#60					18.08	230
4287		Profile		0	17.95	70,000
				15	17.81	70,000
				30	18.69	62
				45	18.76	62
4289		"		0	18.19	24,000
				15	18.36	6,200
				30	18.59	230
				45	18.67	230
4290		"		0	18.05	2,300
				15	18.29	2,300

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

CRUISE 258

June 11-12, 1956.

Station No.	Clock	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
4290		Profile		30	18.59	23
				45	18.68	0.6
4291		"		0	18.43	5,000
				15	18.53	2,300
				30	18.72	60
				45	18.61	6.2
4292		"		0	18.36	2,300
				15	18.73	2,300
				30	18.73	230
				45	18.69	0.6
4293		"		0	18.37	2,300
				15	18.42	230
				30	18.58	2.3
				45	18.62	6.2
4294		"		0	18.55	620
				15	18.65	23
				30	18.68	23
				45	18.62	62
4295		"		0	18.26	230
				15	18.46	230
				30	18.53	230
				45	18.62	0.6
4296		"		0	18.29	23
				15	18.22	62
				30	18.37	130
				45	18.55	2.3

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise 259

June 21-22, 1956

Cruise Description: A 110 station grid was covered from the beach out to the 150 foot line in the area of the hyperion sewage outfall. Bacteria determinations were made on all bottom sediment samples. Portions of the samples were saved for lab. analysis.

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time	Depth (Feet)	Cl.	Coliforms MPN/CM^2
#1		Sediment				Nil
#2						"
#3						"
#4						"
#5						"
#6						"
#7						"
#8						"
#9						"
#11						"
#12						"
#13						"
#14						"
#15						"
#16						"
#17						"
#18						"
#19						"
#21						"
#22						"
#23						"
#24						"
#25						"
#26						"
#27						"
#28						"
#29						"
#30						"
#31						"
#32						"
#33						"
#34						"
#35						24

Cruise 259

June 21-22, 1956

Station No.	Clock Time	Type of Experiment	Elapsed Time	Depth (Feet)	Cl.	Coliforms MPN/CM^2
#36		Sediment				Nil
#37						"
#38						"
#39						"
#40						"
#41						"
#42						"
#43						"
#44						"
#45						24
#46						24
#47						Nil
#48						"
#49						"
#50						"
#51						"
#52						"
#53						"
#54						180
#55						24
#56						Nil
#57						"
#58						"
#59						"
#60						"
#61						"
#62						"
#63						"
#64						"
#65						24
#66						Nil
#67						"
#68						"
#69						"
#70						"
#71						"
#72						"
#73						"
#74						"
#75						"
#76						"
#77						"
#78						"
#79						"
#80						"
#81						"

Cruise 259

June 21-22, 1956

Station No.	Clock Time	Type of Experiment	Elapsed Time	Depth (Feet)	Cl.	Coliform MPN/CM^2
#82		Sediment				Nil
#83						"
#84						250
#85						52
#86						Nil
#87						"
#88						"
#89						"
#90						"
#91						"
#92						"
#93						"
#94						"
#95						24
#96						Nil
#97						"
#98						"
#99						"
#100						"
#101						"
#102						"
#103						"
#104						"
#105						"
#106						"
#107						"
#108						"
#109						"
# 0*						"

*Anchorage 6/21

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise Lab.

July 16, 1956

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time (hrs)	Depth (ft)	Cl.	Coliforms MPN/ML
		Dye Toxicity*	0			6,200
		In sunlight				
		(with dye)	2			24,000
			2			0.60
						0.60
			4			1.30
						2.30
			6			2.30
						0.60
		Dye Toxicity	0			13,000
		(without dye)				70,000
		Dye Toxicity	2			1.3
		(without dye)				2.1
			4			Nil
						0.60
			6			2.30
						0.46

*0.01% Sodium Fluorescein }
5% Primary Effluent in Sea Water } 100 ml in Pressor Bottles

APPENDIX TO CRUISES

BACTERIA AND NUTRIENT

Cruise Lab.

July 1[illegible] 1956

Bacteriological Data:

Station No.	Clock Time	Type of Experiment	Elapsed Time	Depth (Feet)	Cl.	Coliforms MPN/ML
		Dye Toxicity* In sunlight (with dye)	0			24,000
						70,000
			2			2,300
						2,300
			4			2,300
						620
			6			230
						230
		Dye Toxicity (without dye)	0			24,000
						70,000
		Dye Toxicity (without dye)	2			230
						2,300
			4			23
						6.2
			6			0.60
						Nil

---

*0.01% Sodium Fluorescein }
5% Primary Effluent in sea water } 500 ML in open beakers

APPENDIX TO CRUISES

NUTRIENTS AND WATER PROPERTIES

Station No.	Temp. °C	Depth (Ft.)	Secchi Disk Trans.	Plankton at 50 ft. (ml.)	PO_4 µg-a/L	SiO_3 µg-a/L	NO_3 µg-a/L	DO ml/L	NH_4 µg-a/L
3551	15.74	0	20	0.10*	1.7	6.0		3.25	
	15.15	15			1.8	6.0		4.90	
	11.59	95			2.0+	9.0		3.05	
3552	15.81	0	23	0.06*	1.7	7.0		5.37	
	15.45	15			1.6	5.0		2.96	
	10.98	95			2.0	8.0		2.33	
3553	15.42	0	21	0.1-*	1.7	7.0		2.92	
	15.22	15			1.7	6.0		3.43	
	11.03	95			2.0+	8.0		2.95	
3554	15.60	0	24	0.1-*	1.8	6.0		4.83	
	15.37	15			1.3	6.0		4.37	
	11.10	95			1.5	8.0		3.35	
3555	15.70	0	20	0.1-*	1.7	6.0		5.38	
	15.04	15			2.2	6.0		3.38	
	10.74	95			2.1	9.0		2.47	
3556	15.50	0	23	0.1-*	2.3	6.0		3.39	
	15.46	15			2.2	6.0		3.08	
	11.14	95			2.1	8.0		2.38	
3557	15.50	0	18	0.1-*	2.3	6.0		3.49	
	15.09	15			2.3	6.0		3.60	
	11.47	95			2.1	8.0		2.56	
3558	15.50	0	23		2.1	6.0		2.34	
	15.43	15			2.2	6.0		3.18	
	11.05	95			2.1	8.0		2.53	
3559	15.70	0	28		2.1	6.0		4.79	
	15.48	15			1.9	6.0		2.57	
	11.14	95			2.1	8.0		2.72	
3560	15.95	0	25	0.1-*	2.2	6.0		3.39	
	15.46	15			2.3	6.0		3.17	
	11.25	95			2.3	8.0		2.17	
3561	15.70	0	16	0.1-	6.0	20.0**		4.76	
	15.83	15			1.2	6.0**		3.03	
	14.13	45			1.0	7.0**		2.92	
3563	16.35	0	18	0.1-	4.2	20.0**		3.95	
	16.15	15			1.8	6.0**		3.42	
	14.05	45			1.3	7.0**		3.03	
3564	16.60	0	17	0.1-	1.5	7.0**		5.06	
	16.03	15			0.6	5.0**		4.25	
	14.63	45			1.0	7.0**		3.62	
3565	16.60	0	19	0.1-	1.2	6.0**		3.88	
	16.17	15			0.9	5.0**		2.96	
	15.21	45			0.8	4.0**		3.82	
3566	16.62	0	15	0.1-	1.3	6.0**		4.37	
	16.05	15			1.4	5.0**		4.19	
	13.89	45			1.6	8.0**		3.35	

*Taken at 100 feet
**Uncorrected for salt factor.

APPENDIX TO CRUISES

NUTRIENTS AND WATER PROPERTIES

Station No.	Temp. °C	Depth (Ft.)	Secchi Disk Trans. (Feet)	Plankton at 50 ft (ml.)	PO_4 µg-a/L	SiO_3 µg-2/L	NO_3 µg-a/L	DO ml/L	NH_4 µg-a/L
3567	16.20	0	18	0.1+	0.6	9.0**		2.93	
	16.25	15			0.6	4.0**		3.24	
	14.71	45			0.2	6.0**		2.84	
3568	17.00	0	13	0.1-	3.2	8.0**		5.95	
	16.68	15			2.4	6.0**		4.23	
	14.60	45			1.4	7.0**		5.49	
3569	17.02	0	34	0.1- *	1.5	3.0**		5.14	
	16.92	15			1.5	2.0**		4.10	
	15.45	45			1.4	2.0**		3.79	
3619	16.30	0	24	0.10 *	0.3	5.0	1.4	3.58	
	15.73	15			0.4	6.0	3.0	3.81	
	11.16	115			1.2	20.0	18.0	4.06	
3620	16.00	0	25	0.15 *	0.3+	4.0	0.7	1.46	
	15.68	15			0.4	6.0	1.0	4.68	
	13.22	50			1.1	15.0	9.0	2.74	
	12.15	110			0.9	30.0	14.0	3.01	
3621	16.20	0	29	0.1- *	0.4	4.0	0.8	2.53	
	15.88	15			0.4	4.0	0.8	2.76	
	14.03	50			1.1	9.0	9.0	2.39	
	11.79	110			1.0	15.0	17.0	2.72	
3622	16.50	0	29	0.10 *	0.3	3.0		3.75	
	15.62	15			0.4	4.0		1.67	
	14.08	50			0.7	8.0		2.21	
	12.43	110			1.1	15.0		2.30	
3623	16.05	0	25	0.20 *	1.2	8.0		4.06	
	15.94	15			1.1	9.0		2.57	
	15.54	50			0.9	9.0		2.31	
	12.17	110			1.4	25.0		2.69	
3625	16.40	0	25	0.10 *	0.6	5.0	1.2	3.84	
	16.11	15			0.5	5.0	0.7	3.57	
	15.49	50			0.9	8.0		3.00	
	14.18	110			1.3	10.0	4.0	2.03	
3626	16.30	0	27	0.10 *	0.5	6.0	1.2	6.14	
	16.12	15			0.4	4.0	0.8	4.42	
	15.52	50			0.8	5.0		3.16	
	12.73	110			1.5	10.0	7.0	2.71	
3627	16.10	0	27	0.10 *	0.6	5.0		6.11	
	16.14	15			0.5	4.0		3.75	
	15.35	50			1.0	5.0		3.41	
	13.06	110			2.2	9.0		2.54	
3628	15.00	0	10		2.6	20.0	9.0	1.20	
	15.86	15			0.5	5.0	1.0	3.84	
	15.60	50			0.9	8.0	0.7	2.87	
		110			1.0	9.0	1.4	4.11	

*Taken at 100 feet.

**Uncorrected for salt factor.

NUTRIENTS AND WATER PROPERIES

Station No.	Temp. °C	Depth (Ft.)	Secchi Disk Trans. (Feet)	Plankton at 50 ft (ml.)	PO_4 µg-a/L	SiO_3 µg-a/L	NO_3 µg-a/L	DO ml/L	NH_4 µg-a/L
3632	16.15	0	5	0.10	1.4	5.0		3.71	
	15.76	15			0.9	4.0		3.84	
	15.02	45			0.8	5.0		3.78	
3633	16.40	0	17	0.10	1.0	5.0		3.60	
	15.97	15			1.7	6.0		5.04	
	15.09	45			0.1	5.0		3.99	
3634	16.40	0	22	0.10	2.1	6.0		3.33	
	15.88	15			0.5	5.0		5.31	
	15.13	45			0.1	5.0		3.11	
3635	16.85	0	30	0.10	1.8	6.0		3.99	
	16.40	15			<0.1	4.0		5.72	
	15.26	45			<0.1	5.0		4.89	
3636	16.80	0	23	0.15	1.4	6.0		4.07	
	16.30	15			<0.1	5.0		3.01	
	14.97	45			0.1	6.0		3.02	
3637	17.05	0	25	0.10	Trace	5.0		4.24	
	16.30	15			Trace	4.0		3.93	
	15.78	45			0	6.0		5.55	
3638	16.60	0	19		0.2	4.0		2.64	
	16.36	15			0	4.0		4.38	
	14.91	45			0	6.0		3.92	
3639	17.00	0	21		0.1	4.0		3.86	
	16.61	15			0	3.0		3.56	
	15.14	45			0.1	6.0		3.80	
3640	16.90	0	20		0.1	4.0		4.52	
	16.49	15			0.1	3.0		5.18	
	15.57	45			0.1	5.0		5.76	
3652	15.25	0	7	2.60 *	2.1	9.5		5.24	11.0
	14.60	15			2.0	9.5		5.34	12.0
	14.32	40			2.7	13.0		3.08	17.0
	12.39	120			3.8	15.0		2.99	18.0
3653	15.90	0	38	0.50 *	>1.0**	11.0		5.54	1.0
	15.63	25			0.8	7.0		3.07	<1.0
	12.97	105			2.3	12.0		3.26	6.0
3654		0	23	1.00	0.9	6.0		5.21	<1.0
	15.10	15			1.1	5.0		5.74	0
	15.57	30			1.4	6.5		5.22	0
	15.14	45			0.7	7.0		5.20	0
3656	15.80	0	34	1.00	1.2	7.0		5.70	1.0
	15.56	15			0.5	6.0		5.72	<1.0
	15.47	30			0.4	6.0		5.27	0
0918	14.83	45			0.9	8.0		4.34	<1.0
Inter.	15.94	0			2.2	8.5		5.67	
3657	15.77	0	25	0.10	2.2	9.5		5.51	22.0
	15.64	15			0.5	3.0		5.82	<1.0
	15.32	30			0.1	6.5		4.60	0
	14.19	45			0.8	8.0		4.41	<1.0

*Taken at 100 feet.

**Dye in sample, determination questionable.

APPENDIX TO CRUISES.

NUTRIENTS AND WATER PROPERTIES

Station No.	Temp. °C	Depth (Ft.)	Secchi Disk Trans. (Feet)	Plankton at 50 ft (ml.)	PO_4 µg-a/L	SiO_3 µg-a/L	NO_3 µg-a/L	DO ml/L	NH_4 µg-a/L
0928									
Inter.	15.75	0			4.4	8.5		4.07	
3658	16.00	0	30	0.10	2.4	9.5		5.59	30.0
	15.66	15			0.5	7.0		5.81	1.0
	15.16	30			0.6	6.5		5.48	<1.0
	14.45	45			0.8	7.0		5.18	<1.0
1002									
Inter.	15.85	0			0.9	4.0		5.76	
3659	15.95	0	33		2.2	10.0		5.62	19.0
	15.31	15			0.4	5.0		5.80	<1.0
	15.69	30			0.3	5.0		5.25	<1.0
	15.33	45			0.6	7.0		4.96	<1.0
1021									
Inter.	16.10	0			2.1	8.0		2.91	
3660	16.40	0	32	0.20	0.5	9.5		5.82	4.5
	15.76	15			0.6	3.0		5.29	<1.0
	15.76	30			0.4	4.0		5.74	<1.0
	14.85	45			0.8	7.5		1.27	<1.0
1043									
Inter.	16.30	0			2.1	7.5		5.83	
3661	16.30	0	40		1.0	8.0		5.61	20.0
	15.73	15			0.6	3.0		5.86	1.0
	15.63	30			0.5	6.0		5.56	<1.0
	15.25	45			0.4	7.5		1.26	<1.0
1107									
Inter.	16.55	0			2.3	8.0		5.58	
3662	16.35	0			1.0	8.5		5.64	18.0
	15.71	15			0.4	3.0		5.94	2.0
	15.64	30			0.2	3.5		3.69	<1.0
	15.45	45			0.3	5.0		3.16	<1.0
1135									
Inter.	16.20	0			7.2	25.0		5.41	
3663	16.00	0	25		1.9	8.5		5.64	13.0
	15.60	15			1.4	8.5		5.69	11.0
	15.54	30			0.7	6.5		5.78	<1.0
	14.71	45			0.7	7.5		5.30	<1.0
12:05									
Inter.	16.20	0			4.0	15.0		2.67	
3664	16.60	0	32		2.2	8.0		5.24	19.0
	15.77	15			0.7	4.0		5.61	3.0
	15.57	30			0.4	4.0		5.46	<1.0
	14.79	45			0.8	7.5		3.72	<1.0
3665	16.10	0	34		0.6	5.0		3.03	3.0
	15.82	15			0.5	5.0		2.79	1.5
	15.33	30			0.5	5.0		3.58	<1.0
	14.66	45			0.7	8.0		2.97	<1.0

APPENDIX TO CRUISES

NUTRIENTS AND WATER PROPERTIES

Station No.	Temp. °C	Depth (Ft.)	Secchi Disk Trans. (Feet)	Plankton at 50 ft (ml.)	PO_4 µg-a/L	SiO_3 µg-a/L	NO_3 µg-a/L	DO ml/L	NH_4 µg-a/L
1342									
Inter.	16.00	0			11.2	35.0			
3666	16.20	0	25		0.4	5.0		5.76	1.0
	16.03	15			0.5	5.0		5.79	< 1.0
	15.11	30			0.4	5.0		5.64	< 1.0
	14.87	45			0.6	8.0		5.22	< 1.0
3667	15.90	0	30		0.7	6.0		5.52	8.0
	15.82	15			0.5	5.0		5.83	3.0
	15.28	30			0.6	7.0		4.80	< 1.0
	14.46	45			0.7	8.0		5.19	< 1.0
1421									
Inter.	15.80	0			3.6	18.0		5.29	
3668	15.75	0	31		2.4	11.0		5.05	32.0
	15.56	15			0.5	4.0		3.13	< 1.0
	14.53	30			0.6	7.5		5.32	< 1.0
	13.91	45			0.8	8.0		5.06	< 1.0
14:47.									
Inter.	15.30	0			4.8	25.0		5.23	
3669	16.20	0	28		0.5	5.0		5.96	2.5
15:00									
Inter.	16.20	0			0.5	5.0		5.90	
3670	16.20	0	23		0.5	5.0		5.94	< 1.0
10:42									
Inter.		0			0.3	4.0	1.5	4.82	
3738	13.65	0	Meter*	10.00	1.1	7.0	2.0	5.45	
	13.06	15			0.8	4.5	1.5	3.17	
	13.13	30			0.9	6.5	1.5	3.54	
	13.77	45			0.9	6.5	1.0	5.41	
3739	13.85	0	Meter*	5.00	4.4	10.0	4.5	4.06	
	13.47	15			2.9	11.0	1.0	2.94	
	13.16	30			1.1	7.0	1.5	5.29	
	13.25	45			0.9	6.5	1.5	1.38	
3740	13.50	0	Meter*		1.0	7.0	2.0	5.35	
	13.14	15			1.0	7.0	1.5	5.40	
	13.12	30			0.9	7.0	2.0	5.51	
	13.18	45			0.2	7.0	1.5	5.43	
3742	13.65	0	Meter*	12.00	1.4	7.5	1.5	4.76	
	13.10	15			1.0	7.0	1.5	5.35	
	13.16	30			1.8	7.0	1.0	4.05	
	13.78	45			7.0	7.5	1.0	4.15	
3743	13.65	0	Meter*	15.00	0.8	7.0	1.5	5.60	
	13.29	15			0.9	7.0	1.0	5.34	
	13.32	30			0.4	7.0	1.5	3.71	
	13.25	45			0.2	7.5	1.0	3.26	
3744	13.65	0	Meter*	6.00	2.0	7.0	1.5	4.28	
	13.34	15			0.7	6.0	1.5	5.51	

*See sect. on light transmission in sea water

APPENDIX TO CRUISES

NUTRIENTS AND WATER PROPERTIES

Station No.	Temp. °C	Depth (Ft.)	Secchi Disk Trans. (Feet)	Plankton at 50 ft (ml.)	PO_4 µg-a/L	SiO_3 µg-a/L	NO_3 µg-a/L	DO ml/L	NH_4 µg-a/L
3744	13.31	30			0.5	6.0	1.5	3.81	
	13.25	45			0.7	6.0	1.5	4.25	
3745	13.75	0	Meter*	15.00	1.5	7.5	1.5	3.19	
	13.32	15			0.6	6.0	1.5	5.52	
	13.29	30			0.5	6.0	3.0	5.49	
	13.04	45			0.8	7.5	1.5	4.94	
3746	13.65	0	Meter*	6.00	0.8	6.0	1.0	2.73	
	13.25	15			1.4	8.0	1.5	4.07	
	13.22	30			0.7	7.0	1.5	3.65	
	13.84	45			0.6	6.5	1.0	4.75	
3747	13.57	0	Meter*	4.00	1.7	7.0	1.5	4.74	
	13.26	15			1.8	7.5	1.0	5.44	
	13.18	30			0.7	7.0	1.0	5.48	
	13.25	45			0.6	6.5	1.0	5.50	
3748	13.60	0		4.60	1.6	7.5	1.0	4.09	
	13.17	15			1.2	7.0	1.5	5.49	
	13.13	30			0.8	7.0	1.0	4.72	
	13.25	45			0.6	7.0	1.5	5.27	
1539 Inter.		0				7.0	2.0	5.15	
1543 Inter.		0			0.7	8.5	2.0	5.35	
1547 Inter.		0			0.1	6.0	1.5	3.68	
1551 Inter.		0			0.1	4.5	1.5	4.01	
1555 Inter.		0			0.2	4.5	1.5	4.23	
1559 Inter.		0			0.3	5.0	1.5	3.24	
1603 Inter.		0			0.3	6.0	2.0	5.20	
1607 Inter.		0			< 1	5.0	1.5	5.32	
1610 Inter.		0			< 1	4.5	2.5	5.15	
1614 Inter.		0			< 1	4.5		3.63	
1618		0			0.2	6.0		5.70	
1622 Inter.		0			0.2	6.5	2.5	5.62	
1630 Inter.		0			0.1	7.0	2.0	5.65	
1634 Inter.		0			0.1	5.0	1.5	5.66	
1639 Inter.		0			0.1	6.0	1.5	5.63	
1644 Inter		0			> .1		1.5	5.52	

*See sect. on light transmission in sea water.

APPENDIX TO CRUISES

NUTRIENTS AND WATER PROPERTIES

Station No.	Temp. °C	Depth (Ft.)	Secchi Disk Trans. (Feet)	Plankton at 50 ft (ml.)	PO_4 µg-a/L	SiO_3 µg-a/L	NO_3 µg-a/L	DO ml-L	NH_4 µg-2/
1648									
Inter.		0			0.2		2.0	5.62	
Inter.		0						5.55	
Inter.		0						5.17	
3751	13.45	0	Meter*		0.6	5.0	1.0	5.23	
	12.75	15			0.8	7.0	1.5	4.67	
	13.06	30			0.9	7.0	1.5	4.70	
	13.18	45			0.6	7.0	1.5	3.87	
3752	13.75	0	"	6.00	5.6	15.0	1.0	4.87	
	13.10	15			3.8	9.0	1.0	5.44	
	13.47	30			0.9	6.0	1.5	5.51	
	13.96	45			0.8	7.0	1.5	5.49	
3753	13.80	0	"	4.00	8.0	20.0	4.5	3.82	
	13.38	15			3.6	11.0	2.0	5.40	
	13.38	30			1.1	6.0	1.5	5.56	
	13.31	45			0.8	5.0	1.5	5.38	
3754	13.80	0	"	11.00	13.0	26.0	18.0	5.16	
	12.91	15			7.6	22.0	5.0	5.33	
	13.33	30			3.0	9.0	1.5	4.90	
	13.35	45			0.6	5.0	2.0	5.55	
3755	13.75	0	"	6.0	0.7	9.0	1.0		
	13.33	15			0.7	5.0	1.5	5.43	
	13.36	30			0.6	5.0	2.0	5.34	
	13.39	45			0.6	7.0	1.5	5.51	
3756	13.95	0	"	15.00	0.3	6.0	1.5	4.54	
	13.55	15			0.3	5.0	1.5	5.65	
	13.39	30			0.3	6.0	3.5	5.52	
	13.25	45			0.5	7.0	2.0	5.28	
3757	14.10	0	"	7.00	0.3	6.0		5.58	
	13.68	15			0.3	7.0		4.86	
	13.64	30			0.3	5.5		5.54	
	13.40	45			0.4	7.0		5.34	
3758	14.25	0	"	12.00	0.3	6.0	1.5	5.77	
	13.68	15			0.3	6.0	1.5	5.67	
	13.68	30			0.3	6.0	2.0	5.66	
	13.60	45			0.3	6.5	1.5	5.61	
3759	14.15	0	"	5.00	0.3	6.0	1.5	5.70	
	13.77	15			0.3	6.0	2.0	5.64	
	13.47	30			0.3	6.0	2.0	5.58	
	13.38	45			0.4	7.0	1.5	5.54	
3760	14.30	0	"	7.00	0.1	6.0	2.0	5.50	
	13.57	15			0.2	7.0	2.5	5.48	
	13.33	30			0.1	7.0	3.0	5.56	
	13.24	45			0.2	7.0	2.5	5.39	

*See section on light transmission in sea water

APPENDIX TO CRUISES

NUTRIENTS AND WATER PROPERTIES

Station No.	Temp. °C	Depth (Ft.)	Secchi Disk Trans. (Feet)	Plankton at 50 ft (ml.)	PO_4 µg-a/L	SiO_3 µg-a/L	NO_3 µg-a/L	DO ml/L	NH_4 µg-a/L
3761	14.50	0	Meter*		0.6	6.0	1.5	5.69	
		15			0.4	6.5	1.5	5.71	
		30			0.4	5.0	1.5	5.63	
		45			0.4	6.5	2.0	5.67	
3806	12.80	0	5*	10.00	5.2	15.0	1.5	4.97	12.0
	12.56	15			2.6	11.0	2.0	5.08	<1.0
	11.76?	25			1.5	14.0	1.5	4.35	0
	11.84?	45			1.9	16.0	2.0	3.88	0
3807	13.00	0	6*	4.00	7.6	21.0	1.0	5.04	40.0
	12.34	15			2.2	10.0	2.0	5.34	<1.0
	11.68	25			1.7	14.0	0	4.27	0
	11.51	45			1.8	17.0	1.0	3.79	0
3808	13.10	0	11*	8.00	7.4	19.0	2.0	4.97	37.0
	12.93	15			2.2	8.0	1.0	5.77	<1.0
	11.95	25			1.6	12.0	1.0	4.78	0
	10.18?	45			1.8	16.0	2.5	3.95	0
3809	13.30	0	18*		2.8	9.0	1.5	5.94	13.0
	12.96	15			2.7	9.0	0	2.21	0
	11.65	25			1.4	13.0	2.0	4.71	<1.0
		45			1.7	15.0	2.0	3.58	0
3810	13.40	0	20*	1.50	4.2	14.0	1.0	5.82	16.0
	13.21	15			3.3	11.0	0	6.14	7.0
	12.35	25			1.5	10.0	1.0	5.08	<1.0
	11.35?	45			1.6	16.0	5.0	4.30?	0
3811	13.40	0	9*		4.8	14.0	2.0	6.30	20.0
	13.12	15			3.6	9.0	1.0	6.11	4.5
	12.60	25			1.6	7.0	1.5	5.55	<1.0
	9.02?	45			1.4	14.0	3.5	4.23	0
3812	14.15	0	27*	2.50	0.6	6.0	0	6.76	<1.0
	13.57	15			0.8	6.0	0	6.94	0
	12.59	25			0.8	10.0	0	5.51	0
	11.71?	45			1.2	15.0	2.0	4.25	<1.0
3813	13.85	0	23*	2.00	0.7	6.0	0.5	6.66	13.0
	13.45	15			0.7	5.0	0.5	6.99	0
	13.20	25			0.7	6.0	0.5	6.84	0
	10.48?	45			1.6	14.0	5.0	4.32	<1.0
3814	13.65	0	24*	1.50	0.5	5.0	0.5	6.95	<1.0
		15			0.7	5.0	0.5	6.98	0
		25			0.7	5.0	0.5	7.00	0
		45			1.4	13.0	5.0	4.74	<1.0
3815	13.30	0	7*	4.00	6.0	17.0	2.0	5.96	46.0
	13.21	15			3.4	12.0	1.5	5.83?	13.0
	12.77	25			1.0	7.0	2.0	6.05	10.0
	11.23?	45			1.6	17.0	6.5	3.91	<1.0

*See sect. on light transmission in sea water.

APPENDIX TO CRUISES

NUTRIENTS AND WATER PROPERTIES

Station No.	Temp. °C	Depth (Ft.)	Secchi Disk Trans. (Feet)	Plankton at 50 ft (ml.)	PO_4 µg-a/L	SiO_3 µg-a/L	NO_3 µg-a/L	DO ml/L	NH_4 µg-a/L
3817	12.70	0	5*	4.00	8.9	11.0	3.0	5.08	66.0
	12.61	15			2.4	11.0	2.5	3.78	13.0
	12.03	25			1.2	11.0	3.5	5.21	0
		45			1.3	21.0	4.5	4.94	<1.0
3818	13.55	0	5*	3.00	4.0	12.0	2.5	5.79	28.0
	13.12	15			2.5	10.0	1.5	5.91	14.0
	12.25	25			0.8	7.0	2.5	5.88	<1.0
	11.92	45			1.2	10.0	0	4.85	<1.0
3819	12.90	0	15*	1.00	10.0	23.0	4.0	4.92	62.0
	12.93	15			2.0	8.0	1.5	6.11	<1.0
	12.70	25			0.6	5.0	0.5	6.61	<1.0
	11.92	45							
3820	13.30	0	22*	0.75	7.0	19.0	4.0	5.24	68.0
	13.27	15			2.7	7.0	1.5	6.14	<1.0
	12.67	25			0.9	7.0	1.5	6.96	<1.0
	12.26	45			0.8	8.0	2.0	4.96	<1.0
3821	13.60	0	22*		5.6	15.0	3.0	5.55	36.0
	12.80	15			1.3	6.0	1.5	6.50	3.0
	12.41	25			0.5	6.0	2.0	6.28	0
	12.27	45			0.7	7.0	5.5	5.97	0
3822	13.60	0	23*		1.8	7.0	2.0	5.69	11.0
	12.92	15			0.8	5.0	1.5	6.83	0
	12.39	25			0.5	7.0	4.0	6.02	0
	12.28	45			0.8	7.0	6.0	4.93	0
3823	13.80	0	22*	.50	4.3	10.0	6.0	5.26	16.0
	12.68	15			0.8	5.0	1.5	6.62	0
	12.23	25			0.9	7.0	6.0	5.97	0
	12.17	45			1.1	7.0	6.5	5.64	<1.0
3824	13.30	0	24	1.00	1.0	6.0	6.0	6.37	0
	12.97	15			1.2	5.0	1.5	5.96	0
	12.17	25			0.9	7.0	6.0	3.16	0
	12.19	45			1.0	7.0	6.5	5.59	0
3825	13.60	0	25	0.75	1.6	6.0	3.0	6.52	4.5
	13.11	15			1.4	6.0	2.0	5.98	15.0
	12.44	25			0.8	7.0	3.0	6.28	0
	12.19	45			1.1	7.0	4.0	5.66	0
3826	13.95	0	15*	1.00	2.8	10.0	6.0	6.47	8.5
	12.94	15			1.3	6.0	2.5	6.45	<1.0
	12.31	25			1.0	7.0	6.0	5.78	0
	12.11	45			1.2	9.0	10.5	5.37	0
3827	13.30	0			0.4	4.0	0	6.63	<1.0
	12.78	15			0.4	4.5	0	6.79	0
	12.17	25			0.5	5.0	1.5	6.34	0
	12.11	45			0.5	5.5	2.0	6.19	0
3878	12.80	0	36	2.40	1.0	7.5	0	5.97	10.5
	12.59	25			0.9	7.0	4.0	5.92	4.5

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APPENDIX TO CRUISES

NUTRIENTS AND WATER PROPERTIES

Station No.	Temp. °C	Depth (Ft.)	Secchi Disk Trans. (Feet)	Plankton at 50 ft. (ml.)	PO_4 µg-a/L	SiO_3 µg-a/L	NO_3 µg-a/L	DO ml/L	NH_4 µg-a/L
3878	12.57	75			1.8	7.0	4.0	5.81	3.5
	11.64	125			1.3	11.0	7.5	4.37	3.0
3879	13.00	0	39	2.00	0.8	7.5	4.5	5.94	5.5
	12.57	25			0.9	7.0	0	6.01	4.5
	12.47	75			1.1	9.5	7.0	4.97	5.5
	11.43	125			1.4	14.5	16.0	3.54	1.5
3880	13.00	0	18	15.00	0.8	6.0	3.5	5.99	5.0
	12.60	25			0.9	6.0	4.5	5.98	4.5
	12.51	75			1.0	6.0	4.0	5.74	4.0
	11.04	125			3.8	16.0	22.0	3.58	11.5
3881	12.95	0	36	2.00	0.6	6.0	0	5.17	5.0
	12.72	25			0.8	6.5	3.5	6.09	4.0
	12.49	75			0.9	8.5	4.5	5.44	2.5
	11.65	125			1.3	12.0	12.0	4.40	1.5
3882	13.0	0	29	2.00	0.6	8.5	5.0	6.16	5.0
	12.67	25			0.6	8.0	3.5	5.19	4.0
	12.38	75			0.9	10.0	7.0	5.21	4.5
	11.18	125			Muddy	16.0	20.0	2.17	Muddy
3883	13.05	0	25	2.50	0.7	7.0	3.5	6.14	5.5
	12.71	25			0.9	7.5	3.0	6.11	3.5
	12.47	75			0.6	8.5	4.5	5.48	4.0
	11.66	125			1.6	12.5	8.0	4.33	2.0
3884	13.20	0	29	2.00	0.7	7.5	5.0	6.11	5.0
	12.69	25			0.5	6.5	0.5	6.16	4.0
	12.53	75			1.4	10.0	5.0	5.56	6.0
	11.81	125			1.3	13.0	2.5	4.60	1.5
3885	13.15	0	30		0.6	8.5	4.5	6.14	4.0
	12.66	25			0.5	6.5	1.0	6.28	3.0
	12.53	75			1.3	8.0	3.5	5.58	6.0
	11.92	125			1.0	12.0	3.5	4.72	1.0
3886	13.10	0	48	1.00	0.6	8.5	3.0	6.07	5.0
	12.82	25			0.5	6.5	0	6.20	4.0
	12.54	75			0.7	7.5	1.5	5.75	4.0
	12.09	125			1.1	11.5	12.0	4.06	3.0
3887	12.90	0		0.75	0.5	7.5	4.5	6.24	4.0
	12.80	25			0.5	7.0	0	6.23	3.0
	12.60	75			0.6	6.5	0.5	4.89	1.0
	12.05	125			1.0	12.0	0.5	4.76	2.5
3888	13.10	0		1.25	0.6	7.0	3.5?	6.09	3.0
	12.78	25			0.5	6.5	0.5	5.23	3.5
	12.46	75			0.9	8.0	1.0	5.77	3.5
	12.00	125			1.6	13.0	3.0	4.34	5.5
3892	12.95	0	42	1.50	5.5	6.5		6.24	1.5
	12.64	25			5.5	6.5		6.16	1.0
	12.72	75			5.0	6.5		5.88	0
	11.78	125			1.2	13.0		4.27	1.5

APPENDIX TO CRUISES

NUTRIENTS AND WATER PROPERTIES

Station No.	Temp. °C	Depth (Ft.)	Secchi Disk Trans. (Feet)	Plankton at 50 ft (ml.)	PO_4 μg-a/L	SiO_3 μg-a/L	NO_3 μg-a/L	DO ml/L	NH_4 μg-a/L
3894	13.15	0	54	1.00	5.0	6.5		6.16	<1.0
	12.65	25			5.0	6.5		6.21	<1.0
	12.62	75			4.5	6.5		5.81	<1.0
	8.91	125			2.2	32.0		2.33	0
3895	13.10	0	38	1.60	1.0	8.0		5.99	5.0
	12.60	25			12.0	8.5		6.01	5.0
	12.45	75			1.2	9.0		5.47	5.5
	11.82	125			1.4	13.0		2.71	3.0
3896	13.75	0	25	0.60	1.2	8.5		5.07	8.0
	13.01	25			1.2	8.0		5.64	6.5
	12.80	75			0.5	6.5		6.03	<1
	11.93	125			2.0	11.5		4.48	7.0
3898	12.90	0	18*	10.00	3.2	11.5		5.16	15.0
	12.47	25			2.0	9.5		5.21	9.0
	12.88	75			0.6	4.5		5.98	0
	11.68	125			0.3	12.0		4.49	0
3899	13.00	0	17*	25.00	2.0	8.0		2.82	9.0
	12.59	25			2.2	8.5		2.99	9.5
	12.77	75			0.8	5.5		3.16	2.0
	11.72	125			1.5	12.0		3.66	2.0
3900	13.00	0	16*	18.00	1.9	8.0		5.35	7.5
	12.57	25			1.8	8.0		5.37	7.0
	12.64	75			1.4	7.5		5.50	4.0
	11.75	125			2.2	13.0		4.42	5.0
3901	13.00	0	17*	10.00	2.0	7.5		3.24	8.0
	12.69	25			1.9	7.5		5.33	8.5
	12.98	75			0.5	3.5		6.05	0
	11.74	125			1.3	12.0		4.56	<1.0
3902	13.60	0	16*	11.00	3.2	9.5		5.03	13.0
	12.76	25			2.1	9.5		5.18	8.5
	12.74	75			1.6	5.0		5.42	6.0
	12.98	125			0.7	7.0		5.98	0
3903	13.10	0	23*	10.00	2.0	8.0		5.39	7.0
	12.67	25			1.9	8.5		5.39	6.0
	13.01	75			0.8	6.0		5.95	<1.0
	12.92	125			0.6	5.0		5.97	0
3904	13.50	0	16*	12.00	2.4	11.0		5.06	12.0
	12.68	25			2.0	10.0		5.29	7.0
	13.00	75			0.7	6.0		5.94	0
		125			0.8	7.0		5.62	0
3905	13.20	0	18*	8.00	1.9	9.0		5.42	9.0
	12.77	25			1.8	9.0		5.33	7.0
	13.52	75			0.9	6.0		5.78	1.5
		125			0.8	7.0		5.80	0

*See sect. on light transmission in sea water.

APPENDIX TO CRUISES

NUTRIENTS AND WATER PROPERTIES

Station No.	Temp. °C	Depth (Ft.)	Secchi Disk Trans. (Feet)	Plankton at 50 ft (ml.)	PO_4 µg-a/L	SiO_3 µg-a/L	NO_3 µg-a/L	DO ml/L	NH_4 µg-a/L
3906	13.10	0	19*	11.00	1.8	9.0		5.45	7.5
	12.55	25			1.8	8.5		5.50	6.0
	13.04	75			0.5	6.0		6.05	0
		125			2.0	12.0		4.51	5.0
3907	13.20	0	18	13.00	1.5	8.0		5.63	6.0
	12.64	25			1.5	8.0		5.61	6.0
	12.93	75			0.5	6.0		5.47	0
		125			0.7	7.5		5.08	0

*See section on light transmission in sea water.

APPENDIX TO CRUISES

CURRENT STATIONS

Date	Gear	Time Start	 Stop	Sec. 50'	Knots	Dir. (True)	Meter Depth (ft)
6-25, 26-55	Current Cross	2227		45	0.67	126°	
Head of		2254		50	0.60	126°	
Santa Monica		2321		55	0.55	122°	
Canyon		2346		80	0.37	119°	
		0011		110	0.27	110°	
		0037		100	0.31	107°	
		0103		200	0.15	140°	
		0129			0	114°	
		0156		200	0.15	106°	
		0240			0	066°	
		0330		70	0.43	053°	
		0357		60	0.50	070°	
		0436		60	0.50	076°	
		0505		50	0.60	090°	
		0533		50	0.60	083°	
		0559		45	0.67	100°	
		0627		65	0.46	100°	
7-11, 12-55	" "	2006		55	0.55	135°	
(Off Redondo)		2104		100	0.30	260°	
		2158		50	0.60	305°	
		2253		55	0.55	020°	
		2351		60	0.50	315°	
		0047		115	0.26	270°	
		0142		50	0.60	260°	
		0240		Negl.			
		0340		170	0.18	275°	
		0510		240	0.12	310°	

CURRENT STATIONS

Date	Gear	Time		Sec.	Knots	Direction
		Start	Stop	50'		(true)
8-30, 31-55 (Off Malibu)	Current Cross	0811			0.07	090°
		0844			0.10	090°
		0917			0.07	100°
		0940			0.05	045°
		0945			0.07	135°
		1021			0.04	020°
		1050			0.04	090°
		1120			0.01	120°
		1149			0.11	100°
		1222			0.20	090°
		1254			0.13	120°
		1323			0.25	140°
		2056			0.08	160°
		2133			0.15	170°
		2206			0.17	170°
		2241			0.16	180°
		2314			0.31	225°
		2350			0.22	240°
		0026			0.17	240°
		0059			0.19	240°
		0131			0.13	240°
		0202			0.08	240°
		0238			0.06	220°
		0315			0.04	240°
		0355			0.03	240°
		0432			0.02	270°
		0505			0.08	300°
		0538			0.05	360°

APPENDIX TO CRUISES

CURRENT STATIONS

Date	Gear	Time Start	Time Stop	Sec 50'	Knots	Dir. (Mag.)	Meter Depth (Feet)
8-30, 31-55	Current Cross	0610			0.06	330°*	
		0641			0.04	030°*	
		0716			0.33	030°*	
		0751			0.33	060°*	
6-25,26-55	** Gemware Meter	2036	2046		0.35-	080°	190
(Head of Santa Monica Canyon)		2129	2139		0.23	090°	"
		2148	2208		0.19	095°	"
		2217	2237		0.09	105°	"
		2244	2305		0.0+	100°	"
		2311	2331		0.09	140°	"
		2336	2356		0.0+	165°	"
		0001	0021		0.10-	155°	"
		0027	0047		0.10	170°	"
		0053	0113		0.07	170°	"
		0119	0139		0.24	180°	"
		0146	0206		0.21		"
		0230	0250		0.24		"
		0320	0340		0.17	220°	"
		0347	0407		0.24		"
		0426	0446		0.31	235°	"
		0455	0515		0.38	225°	"
		0523	0543		0.35	230°	"
		0549	0609		0.29	250°	"
		0617	0637		0.24	255°	"
7-11,12-55	"	1956	2016		Negl.	310°	65
(Hyperion)		2026	2046		"	330°	"
		2054	2114		0.14	250°	"
		2122	2142		Negl.	320°	"

*True direction

**From tide tables:
Low @ 2015 June 25
High @ 0135 June 26
Low @ 0807 June 26

APPENDIX TO CRUISES

CURRENT STATIONS

Date	Gear	Time		Sec 50'	Knots	Dir. (Mag.)	Meter Depth (ft.)
		Start	Stop				
7-11,12-55	Gemware Meter	2148	2208		0.10	260°	65
		2217	2237		Negl.	230°	"
		2243	2303		0.15	140°	"
		2311	2331		0.35	135°	"
		2341	2402		0.16	130°	"
		0010	0030		Negl.		"
		0037	0057		"	110°	"
		0105	0125		0.17	080°	"
		0132*	0152		0.10		"
		0200	0220		0.17		"
		0230	0250		0.08	280°	"
		0303	0323		Negl.	010°	"
		0330	0350		0.22	350°	"
		0400	0420		Negl.		"
		0430	0450		"	330°	"
		0500	0520		0.18	350°	"
		0530	0550		Negl.		"
		0555	0615		0.09	320°	"
		0625	0645		0.16	345°	"
7-27,28-55 (Central Rock Shelf)	"	2153	2213		0.05	180°	20
		2246	2306		Negl.	190°	"
		2338	2358		"	360°	"
		0033	0053		0.06	330°	"
		0128	0148		Negl.	020°	"
		0223	0243		0.13	240°	"
		0320	0340		0.14	330°	"
		0420	0440		0.09	200°	"
		0520	0540		0.08	020°	"

*Foam line passed 0135 heading 260° true.

CURRENT STATIONS

Date	Gear	Time Start	Time Stop	Sec	Knots	Dir (Mag)	Meter Depth (Ft.)
7-27, 28-55	Gemware Meter	0620	0640		0.10	020°	20
		0720	0740		0.05	090°	"
		2115	2135		Negl.	350°	100
		2220	2240		"	200°	100
		2312	2332		"	240°	"
		0007	0027		"		"
		0103	0123		"	100°	"
		0153	0213		0.04		"
		0250	0310		Negl.	270°	"
		0350	0410		"		"
		0450	0510		"	010°	"
		0550	0610		0.10	304°	"
		0650	0710		0.10	305°	"
7-28,29-55 (Malibu)	"	1937	2007		0.15	050°	35
		2050	2120		Negl.	350°	"
		2013	2043		0.11	110°	20
		2126	2158		0.07	350°	"
8-10-55 (No Limits) Santa Monica Bay	"	1638	1648		0.30	345°	15
		1713	1723		0.15	330°	"
		1658	1708		0.34	190°	20
		1725	1733:20		0.25	285°	"
		2007	2015:20		0.08	350°	"
		2018	2026:20		0.09	225°	"
		2044	2052:20		0.07	055°	"
		2112	2120:20		0.14	070°	"
		2059	2107:20		0.07		10

APPENDIX TO CRUISES

CURRENT STATIONS

Date	Gear	Time		Sec. 50'	Knots	Dir. (Mag.)	Meter Depth (ft.)
		Start	Stop				
8-24, 25-55	Gemware Meter	2015	2045		0.09		20
(Malibu)		2058	2128		0.09	310°	"
		2136	2204		0.06	300°	"
		2210	2240		0.07	300°	"
		2245	2315		0.05	350°	"
		2320	2350		0.09	320°	"
10-18,19-55 (Rocky Area)	"	1955	2025		0.16	230°	180
		2041	2111		0.08		"
		2133	2203		0.22	170°	"
		2230	2300		0.13	180°	"
		2316	2346		0.11	240°	"
		0002	0032		0.06	200°	"
		0045	0115		0.22	210°	"
		0130	0200		0.16	150°	"
		0211	0241		Negl.		"
		0300	0330		0.26	270°	"
		0357	0427		0.28	110°	"
		0441	0511		0.18	150°	"
		0522	0522		Negl.	155°	"
		0611	0641		0.24	190°	"
		1848	1935		0.39	020°	100
		1955	2025		0.22	050°	"
		2041	2111		0.26	050°	"
		2133	2203		0.35	060°	"
		2230	2300		0.38	060°	"
		2316	2346		0.39	090°	"
		0002	0032		0.23	012°	"
		0045	0115		0.26	070°	"

APPENDIX TO CRUISES

CURRENT STATIONS

Date	Gear	Time Start	Time Stop	Knots	Dir. (Mag.)	Meter Depth (ft.)
10-18,19-55	Gemware Meter	0130	0200	0.32	130°	100
		0211	0241	0.50	150°	"
		0300	0330	0.26	145°	"
		0357	0427	0.21	135°	"
		0441	0511	0.15		"
		0522	0552			"
		0611	0641	0.11	160°	"

Light Transmission in Sea Water

Station Number

Depth (ft)	3671	3672	3673	3674	3675	3676	3677	3687
5	18	48	82	80	77	76	86	96
10	50	52	80	79	80	77	85	94
15	55	58	81	80	78	78	84	97
20	60	59	82	82	82	79	85	96
25	70	79	82	82	92	81		98
30	78	63	83		98			97
35	58	82	83					96
40	43	87	84		89	84	89	
45	50	93	83		89			
50	68			85		99	98	99
55	59	94	85					98
60			85					94
65						98		
70						95		
75		100	87			88	98	
80						81		
85								
90		80					93	
95								
100		79	97	94			89	
105								
110							81	
115							79	
120								
125			100					
130								
135								
140								
145								
150				98				

APPENDIX TO CRUISES

Light Transmission in Sea Water

Station Number

Depth (ft)	3738	3739	3740	3742	3743	3744	3745	3746	3747	3751	3752	3753	3754	3755	3756	3757	3758	3759	3760	3761
5	52	50	65	65	71	78	74	67	59	47	42	48	53	53	88	68	84	83	46	83
10	53	65	65	69	76	79	75	69	58	47	52	63	85	61	88	64	80	82	59	87
15	59	71	65	68	76	81	81	69	63	46	68	47	75	63	86	59	85	81	63	85
20	65	66	65	64	81	82	81	70	64	40	80	69	49	64	77	62	85	80	62	83
25	68	64	65	63	82	83	82	71	65	39	86	62	47	58	74	60	84	72	64	82
30	68	63	65	63	76	82	82	71	64	37	80	59	60	60	65	60	83	68	60	81
35	68	67	63	63	66	79	81	71	63	32	42	37	40	30	52	50	83	67	55	65
40	66	68	60	50	60	75	74	69	64	30	27	36	41	23	47	44	85	65	52	
45	51	64	59	23	59	60	64	73	65	20	27	30		27	45	43	83	65	48	
50	40	54						65	63							30	83	70	54	
55								62	59								82			
60								61	49								83			
65								60	43								80			
70								58												

Light Transmission in Sea Water

Station Number

Depth (ft)	3806	3807	3808	3809	3810	3811	3812	3813	3814	3815	3817	3818	3819	3820	3821	3822	3823	3826	3849	3850	3851	3852
5	1	20	41	36	34	32	75	80	67	24	4	27	62	56	67	64	70	55	76	73	85	96
10	4	63	69	41	34	32	74	78	67	44	3	43	79	77	74	74	75	72	74	74	86	95
15	2	73	72	67	52	37	66	73	67	68	4	56	79	80	74	75	75	83	81	73	82	96
20	3	85	77	74	71	53	67	73	67	68	82	63	79	80	78	76	76	82	80	71	83	95
25	80	80	81	82	78	69	71	69	66	68	82	70	78	81	78	79	78	81	78	84	83	95
30	41	78	84	88	84	80	76	76	65	64	80	78	78	80	79	79	79	80	75	81	84	95
35	39	80	85	89	83	82	77	77	75	73	74	79	80	80	79	79	80	80	70	80	83	96
40	39	78	91	91	90	80	84	78		61	72	75	82	81	78	80	79	79	69	70	86	97
45		76	81	88	83	91				43		56	81	81	80	80	79		70		90	97
50		70				85							78		68	75	76		77		89	97
55																			56			
60																			56		88	95
65																			74			
70																					83	89
75																						
80																						76
90																						76
100																						84
110																						83

APPENDIX TO CRUISES

Light Transmission in Sea Water

Station Number

Depth (ft)	3853	3854	3855	3856	3857	3858	3859	3860	3361	3862	3863	3864	3866	3867	3868	3369	3870	3871	3872	3873	3874	3875
5	90	88	87	84	86	89	85	82	84	84	79	82	28	86	59	62	87	87	83	86	83	84
10	90	88	84	85		89	84	84	85	85	79	80	54	81	73	61	87	86	82	86	83	85
15	90	89	83	85	85	87	85	83	86	85	76	79	58	80		62	88	86	82	86	82	84
20	90	89	83	85	84	85	82	84	87	84	76	79	85	90	94	63	87	87	87	85	83	84
25	90	90	88	85		84	83	82	89	84	77	79	85	88	96	68	87	91	87	86	83	81
30	91	90	91	87	83	85	84	84	90	82	78	79	85	88	95	80	88	91	86	87	83	94
35			92	87	84	85	82	82	90	80	80	79	86	89	98	81	89	91	91	87	85	95
40	93	93	93	87	84	85	84	83	90	79	80	79	84	82	94	85	89	93	90	87	84	91
45			92	87	85	86	83	82	92	79	80		83	57	94	86	89	93	88	87	83	93
50	94	95	93	87	86	85	84	83	99	79	79		63	64	95	85	89	94	88	87	83	94
55									88	79	77											
60	95	95	94	88	85	85	85	85	88	80	77			48	96	86	89	96	87		80	95
65									88	82	77											
70		96	92	88	88	85	85	85	88	83	77			53	96	87	92	96	89		79	95
75									88	84	77									95		
80	94	97	93	89	89	86	84	85	88	85	77			58	96	87	95	90	92	96	83	95
90					88				88	85	77						96			96		
100	96	96	92	89	89	86	85	85	88	85	77					90	96	83	96	96	93	93
110									88	85							96			96		
120	83	93	94	90	91	88	89	87	88	85						86	96	83	92	93	98	88
130	73									80							96			90		
140	84	91	93	91	89	90	89	87	88	80						68	96	84	74	83	94	88
150									88	80							96			80		
160		90	93	92	92	91	90	88	88	80								81	70	80	91	
170									88	[illegible]										80	88	
180		91	90	92	92		92											80	75			

Light Transmission in Sea Water

Depth (ft)	3876	3898	3899	3900	3901	3902	3903	3904	3905	3906	3908	3909	3910	3911	3912	3913	3914	3915	3916	3917	3918	3919
5	68	48	42	52	48	55	58	52	59	61	62									48	50	43
10	69	59	19	54	48	58	60	54	56	63	59	60	73	64	75	59	71	52	44	45	44	43
15	70	81	18	54	51	59	66	58	55	63	59									33	43	45
20	78	69	57	60	59	59	75	63	56	64	58	60	73	76	78	75	77	62	45	46	44	46
25	79	62	62	62	72	59	76	63	58	68	59									64	46	43
30	81	66	61	61	78	60	77	63	61	72	57	60	76	78	79	73	83	62	44	72	47	38
35	91	88	38	62	83	61	78	69	64	79	59									76	52	38
40	89	90	28	77	59	62	68	75	64	84	59	66	80	79	81	79	86	71	67	76	52	49
45	79	89	42	87	85	61	87	75	93	86	62									77	60	54
50	74	88	29	85	87	64	92	78	93	91	68	72	89	80	85	79	86	75	67	77	72	56
55		89	38	85	85	64	95	84			69											
60		86	29	83	84	73	90	90	94	94	69	73	90	87	89	81	86	75	70	80	85	58
65		85	27	86	84	76	95	91			70											
70		54	28	65	83	78	94	94	96	95	82	75	89	92	90	87	87	78	76	82	88	79
75		62	26	69	85	79	94	94			79											
80		78	25	70	83	80	94	95	94	94	82	80	93	93	92	91	96	83	81	85	90	81
85		80	25	69	84	94	94	95			82											
90		84	26	71	80	97	93	95	95	93	83	81	94	94	94	92	96	84	87	89	88	82
95		81	28	40	73	95	93	95			84											
100		81	31	39	63	98	96	95	94	89	85	81	94	94	94	93	97	85	87	90	87	82
105		83	36	41	44	98	98	95														
110		81	37	43	50	98	94	95	93	90		84	93	94	94	94	98	86	87	90	88	83
115		83	39	40	65	96	78	95														
120		83	44	49	74	99	51	95	93	88		86	91	94	94	94	99	87	87	88	88	84
125		83	65	61	78	85	74	94														
130		83	80	69	78	78	73	90	81	88		84	93	94	94	95	98	89	87	87	89	84
135			80	76	76	56	74	89														
140			80	80	76	53		80		76		87	94	93	94	96	98	89	87	88	90	86
145				73	70	58		80														
150				63	68			79		81		86	94	93	94	96	96	89	90	88	89	85
155																						
160										86			93	93	94	95	96	87	91	89		86
165																						
170													94	94	94	97	96			90		

Light Transmission in Sea Water

Station Number

Depth (ft)	3920	3921	3922	3923	3924	3925	3926	3927	3928	3929	3930	3953	3954	3955	3956	3957	4055	4056	4057	4058	4059	4060
5	50		24	61							85	87	82	93	88	82	64	40	49	36	35	19
10	51	54	52	61	71	74	84	86	91	83	86	88	97	93	88	84	56	54	46	43	21	25
15	49	49	64	62							85	89	97	93	87	84	54	58	56	46	37	40
20	48	53	28	68	73	75	84	85	92	82	86	89	97	92	87	84	61	67	50	50	40	59
25	48	49	52	70							84	89	97	93	88	86	86	71	66	68	53	64
30	44	52	69	71	74	74	84	86	91	82	85	89	97	95	90	87	92	79	76	72	66	66
35	49	48	72	75							82	89	97	95	90	87	93	86	82	81	50	68
40	58	49	73	76	78	76	84	88	89	82	81	97	97	93	90	89	95	91	84	81	74	76
45	65	48	72	76							71	97	97	92	87	92	97	74	59	79	84	76
50		47	72	76	77	72	92	89	88	85		97	95	91	90	93	72					70
55			73																			
60			73	77	79	54	91	88	88	88			86	90	86	93						
65																						
70			74	77	80	75	91	89	90				84	85	85	91						
75																						
80				76	80	78	91	90	91			97		85	87	92						
85																						
90				76	81	82	92	89	90			96		83	85	92						
95																						
100				78	80	84	94	89				95		86	82	94						
105																						
110					81	85	94	80				90		82	81	94						
115																						
120					81	88	94					89		81	87	94						
125																						
130					80	90	92					84		82	90	92						
135																						
140					79	90	91					68		90	88	94						
145																						
150						85	86							83	87	96						
155																						
160						83	82							80	86	94						
165																						
170															87	96						

Light Transmission in Sea Water

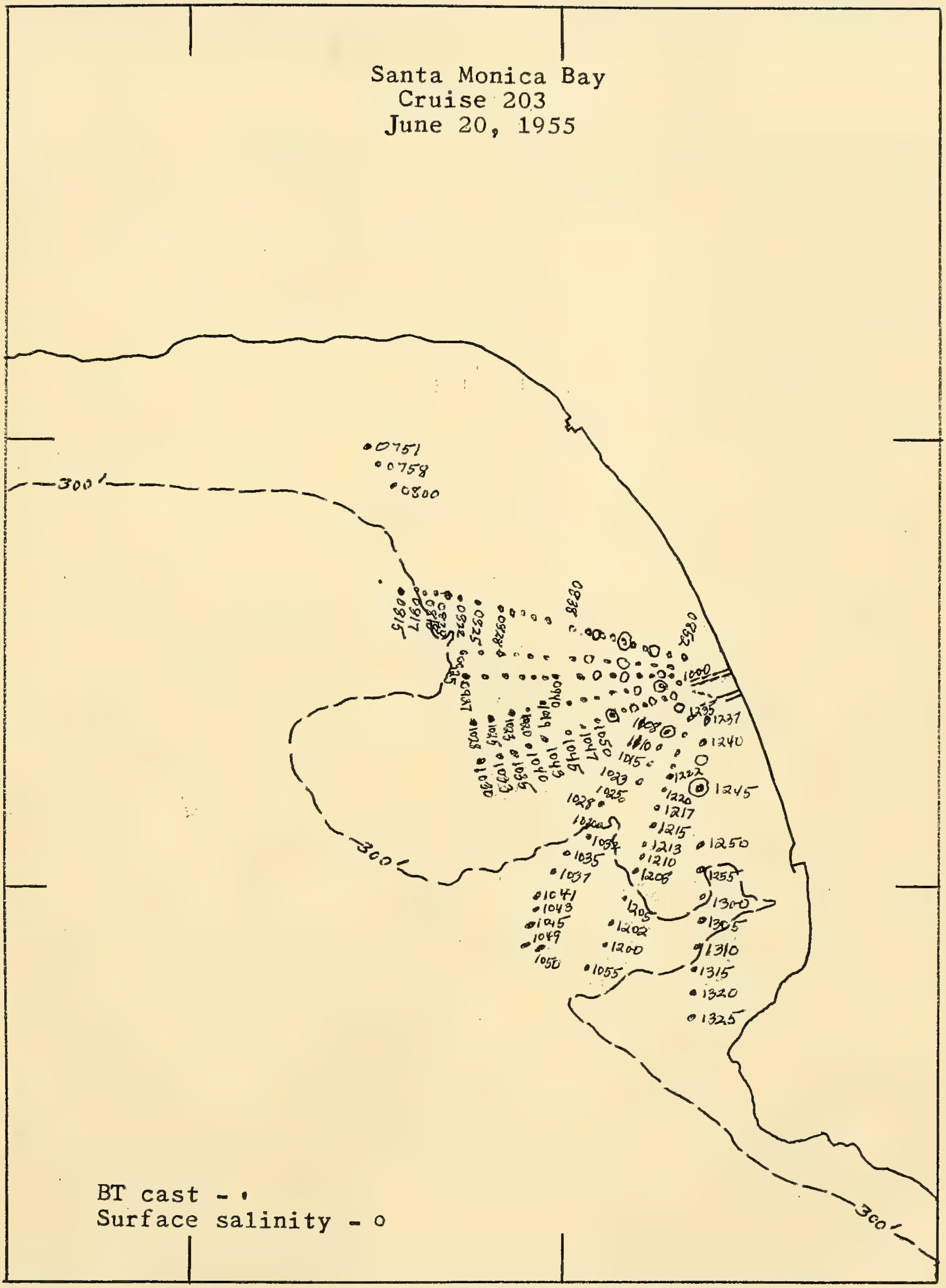
Station Number

Depth (ft)	4061	4062	4063	4064	4065	4066	4067	4068	4069	4070	4071	4072	4073	4074	4075	4076	4077	4078	4079	4080	4081	4082
5	19	42	26	29	8	23	41	31	34	5	31	61	74	78	84	76	82	90	74	56	41	34
10	17	38	33	36	21	35	36	39	35	9	39	61	74	74	79	76	80	90	73	49	68	66
15	25	51	35	28	34	44	40	35	37	15	41	59	69	75	83	78	77	75	54	36	51	66
20	54	52	36	28	44	46	43	39	43	36	40	66	68	75	79	79	76	76	52	28	68	63
25	66	56	50	37	45	48	53	45	45	54	62	65	70	75	80	79	75	80	55	42	64	60
30	74	64	49	51	49	44	52	48	44	62	67	58	70	76	79	79	75	78	72	74	70	55
35	72	63	51	59	50	41	46	50		70	71	58	75	76	79	80	75	73	77	76	73	56
40	78	69	66	58	53					70	73	72	73	80	81	80	77	71	75	76	70	63
45	85	63	25	65						68	71	74	78	81	83	83	79	73	71	74	69	64
50	38	54		31						63	71	76	77	81	82	81	78	74	73	71	69	58
55										73	69	80	80	81	82	83	77	76	71	70	59	50
60										31	68	77	80	80	81	82	78	78	70	68	50	
65												75	78	82	83	81	75	79	66	63		
70												72		80	83	77	75	81		58		
75														81	84	71	74	65				
80														75	81	66	71					
85														68	84	66						
90															85	65						
95															84	65						
100															83	64						
105																64						
110																64						
115																65						

Light Transmission in Sea Water

Station Number

Depth (ft)	4086	4087	4088	4089	4090	4092	4093	4094	4095	4096	4103	4143	4217	4218	4219	4220	4221	4222	4223	4224
5	1	27	10	18		18	5	6		9	75	41	1	14		2	6	15	3	
10	3	40	38	26	21	22	33	9		13	73	43	21	18	5	15	11	17	8	
15	13	53	50	56	39	27	25	10		23	72	41	26	9	14	22	16	21	10	
20	66	59	51	62	47	30	15	9	10	43	68	76	31	29	23	27	18	43	19	
25	79	60	58	66	59	38	45	18	26	44	65	83	41	32	43	25	22	53	20	13
30	65	55	58	65	61	41	43	24	31	42		81	41	55	49	52	44	55	40	19
35		51	60	62	60	45	38	31	28	27		79	41	57	52	53	54	59	50	29
40		50	59	61	56	37	30	37	22			77	43	49	38	50	57	60	55	34
45				40	56		19	38				77	43	51	41	48	58	63	57	35
50					43							60		47	46	48	55	59	59	12
55												42			35	46	46	42	39	
60																		47	33	



Santa Monica Bay
Cruise 203
June 20, 1955

BT cast - •
Surface salinity - o

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 203 Date: 6-18-55

Cruise Description: During the first day, a series of underway bottom ~~sample and underway~~ temperature measurements were completed. Fathometer readings were made coincidentally with the underway casts and surface water samples were collected.

Time →	0850	0905	09--	0920	0930	0940	0950	1005	1020	1035	1050	1105	1115	1125	1135	1145	1155	1205	1215	1225	1235	1246
72°																						
71																						
70																						
69																						
68																						
67																						
66							65·2 0	65·3 0													65·7 0	65·4 0
65						0	7	5												64·3 0	4	5
64				63·2 0	63·8 0	10	18	16	63·2 0									63·2 0	0	4	6	7
63			62·2 0	2	10	12	20	21	4	62·5 0	62·9 0						0	2	8	8	9	8
62	61·8 0	0	4	10	11	14	21	22	28	9	22	61·3 0	61·3 0	61·7 0	61·7 0	61·9 0	5	5	14	14	16	11
61	7	9	8	13	12	15	22	24	34	32	41	10	3	15	15	10	22	25	24	15	17	12
60	10	11	11	15	15	15	23	25	40	38	51	21	38	30	25	27	40	36	31	16	19	15
59	11	14	15	15	17	16	24	30	41	42	56	29	45	40	40	46	46	44	34	24	21	16
58	11	17	18	16	19	18	25	32	44	44	57	34	55	43	42	55	50	48	36	26	23	17
57	12	20	20	17	22	25	27	34	46	45	58	36	57	45	44	58	60	53	38	31	24	18
56	13	26	26	18	24	27	34	37	49	50	60	39	59	48	47	62	62	56	42	36	27	23
55	15	31	24	19	31	31	37	45	53	55	61	42	64	54	50	69	64	58	45	41	30	25
54	19	37	35	21	37	35	43	49	58	58	63	52	75	56	55	77	69	61	51	47	39	39
53	21	44	50	29	42	40			75	63		61	84	73	73	81	75	64	59	56	50	60
52	53	65	59	46	50	79						75	98	78	95	99	98	90	78	75	70	72
51	85	85	90	70	70								110	130	115	120	120	140	130	92	94	95
50	117	100	111	110																110	115	117
49	175			180																	160	160
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 203 Date: 6-18-55

Time →	1255	1305	1315	1326	1340	1350	1400	1410	1420	1430	1440	1455	1505	1515	1525	1536	1545	1600	1615	1626	1635	3097
72°																						
71																						
70																						
69																						
68																						
67		66.5 0																				
66	65.6 0	3	65.2 0	65.2 0									65.1 0		65.7 0							
65	10	4	3	2							64.2 0	64.6 0	4	0	9	64.8 0						
64	11	5	8	7	0	63.5 0	63.6 0		63.4 0	0	4	3	9	9	13	7	63.8 0	0		63.5 0	63.5 0	63.3 0
63	12	7	10	12	5	4	8	62.9 0	2	7	8	6	10	12	21	10	10	10	0	8	8	12
62	13	10	17	13	7	10	10	8	5	9	12	15	12	20	28	12	15	13	8	20	15	17
61	15	13	18	14	18	25	20	20	27	33	28	25	13	27	31	17	18	15	17	35	35	21
60	16	15	19	15	30	34	27	25	36	43	44	30	15	32	34	24	18	28	45	46	38	22
59	17	15	20	21	36	37	32	30	44	47	46	33	17	42	35	26	19	44	60	50	40	24
58	18	16	21	27	42	39	34	34	45	48	48	36	21	44	36	28	32	48	62	51	42	25
57	19	16	22	50	46	43	36	36	47	50	53	40	30	47	38	31	43	50	63	52	45	26
56	20	17	23	60	50	48	41	39	49	56	55	58	41	51	42	33	46	55	66	56	48	27
55	22	19	37	62	55	52	51	42	57	62	58	62	47	58	45	36	51	56	74	60	50	30
54	35	34	44	64	80	60	60	46	64	67	62	69	54	61	60	44	60	60	77	64	55	34
53	50	64	60	70	92	74	71	54	73	76	82	79	81	72	71	82	74	67	85	72	67	41
52	72	83	80	89	99	87	82	66	84	88	89	95	104	103	91	104	105	85	88	82	80	85
51	84	108	105	117	117	115	98	105	100	105	125	121	126	138	115	135	120	94	103	93	115	
50	127	160	128	140	136	155	180	160	122	135	155	148	155	158	165	164	140	117	117	135		
49	180			190	180				178	165	183							181	134			
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 203 Date: 6-19-55

Cruise Description: A series of hydrographic stations, following the axes of Santa Monica and Redondo Submarine Canyons, was completed the second day of the cruise. Bathythermograph traces were also made.

Time →	0830	0910	0933	1025	1029	1105	1138	1220	1325	1418	1506	1545	1616	*1643	1705
72°															
71															
70															
69															
68															
67															
66									65.2 0	65.2 0	65.5 0				
65	64.5 0							64.5 0	8	3	8				
64	20		0	63.5 0	63.3 0		0	26	38	29	20	63.6 0		63.1 0	63.4 0
63	20	62.8 0	14	23	9	0	10	37	46	35	35	8	62.2 0	2	4
62	21	14	15	24	11	18	21	43	48	37	38	10	5	8.13 19	24
61	22	16	15	24	12	20	25	45	50	39	41	19	11	43	34
60	23	17	16	25	13	21	27	45	52	41	44	31	18	55	45
59	24	18	17	25	14	22	28	46	53	44	46	37	37	59	53
58	25	18	17	25	15	23	30	48	54	47	47	43	39	61	56
57	27	19	18	26	15	25	32	53	56	48	48	59	40	63	58
56	33	21	23	27	27	28	34	57	58	49	50	60	41	67	60
55	37	22	27	28	28	40	39	60	59	53	52	61	44	71	65
54	48	24	32	30	35	50	42	69	63	57	69	63	46	75	74
53	59	29	47	42	60	72	63	85	68	69	75	70	57	76	77
52	84	45	56	59	73	83	83	108	91	80	88	82	63	79	83
51	106	81	79	75	90	100	120	125	110	100	106	97	80	87	93
50	121	106	107	100	112	122	137	170	153	124	122	115	150	123	108
49		156	145	150	159	175	165	192	185	150	153	175	180	182	180
48										200					

*Inversion

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 203 Date: 8-20-55

Cruise Description: The last day of the cruise was spent collecting underway bottom samples and temperatures in a pattern radiating from the hyperion outfall.

Time →	0743	0800	0812	0820	0828	0832	0841	0846	0850	0859	1002	1006	1012	1018	1025	1100	1106	1109	1114	1120	1125	1130
72°																						
71																						
70																						
69																						
~~68~~ Top	63.4 11	60.2 18		59.5 38	60.8 28	59.6 55	65.5 9						61.6 25	59.6 29	59.8 29	64.1 25	62.5 21	65.5 7	65.8 10	65.1 13		58.0 45
67 Bot	53.2 46	56.8 24		56.8 53		53.9 73	57.5 25						57.8 39	54.1 43	55.5 39	57.0 45	60.5 23	62.8 12	62.1 17	60.0 25		54.0 52
66																						
65							65.8 12	65.5 11	65.9 8							65.1 10	65.1 3	65.8 8	65.9 10	65.4 12	65.4 15	
64							13	14	12	64.8 8	64.6 12	64.2 6				25	5	10	12	17	20	64.3 10
63	63.6 11						14	16	15	9	13	15				28	15	12	13	18	25	15
62	11	62.1 2				62.3 18	16	18	18	24	32	25	62.1 23			35	21	20	17	20	29	18
61	14	6			61.3 28	45	19	20	20	27	34	35	26	61.9 15	61.2 10	38	23	25	25	23	32	23
60	17	18	60.4 16	60.8 23	37	53	21	22	23	33	36	40	28	25	27	40	25	28	27	25	33	27
59	24	19	40	43	41	58	22	24	25	39	40	45	33	31	31	42	35	33	29	30	40	38
58	36	20	47	50	47	59	23	28	39	41	47	48	41	33	33	43	38	38	31	35	45	45
57	41	23	59	54	53	61	27	34	45	42	50	52	54	35	36	45	42	44	33	40	47	48
56	46	30	73	67	58	69	32	40	47	45	53	55	58	43	38	50	44	47	38	43	52	49
55	49	40	76	76	64	73	36	47	48	55	58	63	63	46	50	60	50	49	45	45	60	50
54	52	55	82	80	72	79	41	49	50	65	63	69	72	50	56	65	60	55	49	52	65	52
53	58	65	102	92	84	110	51	53	55		70	95	86	76	98			75	67	60	75	60
52	80	79	122	99	91	118	70	75				108	110	86	106			90	78	87	92	92
51	93	100	133	103	106	125	100	85				125	145	114	120				94	105	110	112
50	101	117	145	112	121	155							163	155	142				110	135	125	148
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 203

6
Date: 8-20-55

Cruise Description: The last day of the cruise was spent collecting underway bottom samples and temperatures in a pattern radiating from the Hyperion outfall.

Time →	1135	1140	1145	1157	1205	1224	1237	1240	1244	1248	1255	1300	1310	1320
72°														
71														
70														
69														
68 Top	60.0 35	57.5 52		64.6 8	64.3 20	65.5 8			65.7 11	64.8 12	64.9 16	64.2 18	63.0 18	
67 Bot.	53.9 50	54.2 57		58.8 22	54.5 38	54.8 32			55.4 32	57.9 39	55.8 29	54.2 42	56.5 26	
66										0				
65						65.9 10	65.8 11	65.9 14	65.8 10	13	65.2 15		65.4 8	
64				64.7 10	64.8 20	12	16	16	11	13	17	64.9 20	12	64.5 12
63	63.8 8	63.8 10	63.8 18	15	22	13	22	18	11	13	18	24	19	17
62	20	35	25	18	24	18	23	21	15	14	19	26	22	20
61	28	33	30	20	25	23	24	23	18	15	20	27	23	23
60	35	38	34	21	26	24	27	25	19	17	21	30	24	25
59	38	44	39	22	27	26	32	32	21	20	22	32	24	32
58	40	48	41	30	34	28	36	34	23	22	25	33	25	34
57	45	53	44	48	35	30	38	36	28	24	27	34	26	36
56	47	54	46	50	36	32		39	32	28	28	37	29	42
55	48	55	48	52	38	33		45	37	31	35	39	37	49
54	49	60	57	54	55	40		57	50	35	47	44	40	58
53	75	70	63	77	79	50			60	40	65	55	53	73
52	97	96	85	103	90	62			67	65	83	65	70	102
51	105	125	112	125	110	80			80	73	98	85	85	118
50	137	149	163	153	128	95				87	114	97	110	155
49														
48														

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 203 Date: 6-18-55

Time →	0850	0905	0910	0920	0930	0945	0950	1005	1020	1035	1050	1105	1115	1125	1135	1145	1155	1205	1215	1225	1235	1246
72°																						
71																						
70																						
69																						
68																						
67																						
66							65.2 0	65.3 0													65.7 0	65.4 0
65						0	7	5												64.3 0	4	5
64				63.2 0	63.8 0	10	18	16	63.2 0									63.2 0	0	4	6	7
63			62.2 0	2	10	12	20	21	4	62.5 0	62.9 0						0	2	8	8	9	8
62	61.0 0	0	4	10	11	14	21	22	28	9	22	61.3 0	61.3 0	61.7 0	61.7 0	61.9 0	5	5	14	14	16	11
61	7	9	8	13	12	15	22	24	34	32	41	10	3	15	15	10	22	25	24	15	17	12
60	10	11	11	15	15	15	23	25	40	38	51	21	38	30	25	27	40	36	31	16	19	15
59	11	14	15	15	17	16	24	30	41	42	56	29	45	40	40	46	46	44	34	24	21	16
58	11	17	18	16	19	18	25	32	44	44	57	34	55	43	42	55	50	48	36	26	23	17
57	12	20	20	17	22	25	27	34	46	45	58	36	57	45	44	58	60	53	38	31	24	18
									9	50	60	39	59	48	47	62	62	56	42	36	27	23
									3	55	61	42	64	54	50	69	64	58	45	41	30	25
									8	58	63	52	75	56	55	77	69	61	51	47	39	39
	[illegible]	[illegible]	[illegible]						5	63		61	84	73	73	81	75	64	59	56	50	60
52	53	65	59	46	50	79						75	98	78	95	99	98	90	78	75	70	72
51	85	85	90	70	70								110	130	115	120	120	140	130	92	94	95
50	117	100	111	110																110	115	117
49	175			180																	160	160
48																						

219 Same as page 214
220 " " " 215
221 " " " 216
222 " " " 217
223 " " " 218

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 203 Date: 6-18-55

Time →	0850	0905	0910	0920	0930	0945	0950	1005	1020	1035	1050	1105	1115	1125	1135	1145	1155	1205	1215	1225	1235	1246
72°																						
71																						
70																						
69																						
68																						
67																						
66							$\frac{65.2}{0}$	$\frac{65.3}{0}$													$\frac{65.7}{0}$	$\frac{65.4}{0}$
65						0	7	5												$\frac{64.3}{0}$	4	5
64				$\frac{63.2}{0}$	$\frac{63.8}{0}$	10	18	16	$\frac{63.2}{0}$									$\frac{63.2}{0}$	0	4	6	7
63			$\frac{62.2}{0}$	2	10	12	20	21	4	$\frac{62.5}{0}$	$\frac{62.9}{0}$						0	2	8	8	9	8
62	$\frac{61.0}{0}$	0	4	10	11	14	21	22	28	9	22	$\frac{61.3}{0}$	$\frac{61.3}{0}$	$\frac{61.7}{0}$	$\frac{61.7}{0}$	$\frac{61.9}{0}$	5	5	14	14	16	11
61	7	9	8	13	12	15	22	24	34	32	41	10	3	15	15	10	22	25	24	15	17	12
60	10	11	11	15	15	15	23	25	40	38	51	21	38	30	25	27	40	36	31	16	19	15
59	11	14	15	15	17	16	24	30	41	42	56	29	45	40	40	46	46	44	34	24	21	16
58	11	17	18	16	19	18	25	32	44	44	57	34	55	43	42	55	50	48	36	26	23	17
57	12	20	20	17	22	25	27	34	46	45	58	36	57	45	44	58	60	53	38	31	24	18
56	13	26	26	18	24	27	34	37	49	50	60	39	59	48	47	62	62	56	42	36	27	23
55	15	31	29	19	31	36	37	45	53	55	61	42	64	54	50	69	64	58	45	41	30	25
54	19	37	35	21	37	35	43	49	58	58	63	52	75	56	55	77	69	61	51	47	39	39
53	21	44	50	29	42	40			75	63		61	84	73	73	81	75	64	59	56	50	60
52	53	65	59	46	50	79						75	98	78	95	99	98	90	78	75	70	72
51	85	85	90	70	70								110	130	115	120	120	140	130	92	94	95
50	117	100	111	110																110	115	117
49	175			180																	160	160
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 203 Date: 6-18-55

Time →	1255	1305	1315	1326	1340	1350	1400	1410	1420	1430	1440	1455	1505	1515	1525	1536	1545	1600	1615	1626	1635	3099
72°																						
71																						
70																						
69																						
68																						
67		66.5 0																				
66	65.6 0	3	65.2 0	65.2 0									65.1 0		65.7 0							
65	10	4	3	2							64.2 0	64.6 0	4	0	9	64.8 0						
64	11	5	8	7	0	63.5 0	63.6 0		63.4 0	0	4	3	9	9	13	7	63.0 0	0		63.5 0	63.5 5	63.3 0
63	12	7	10	12	5	4	8	62.9 0	2	7	8	6	10	12	21	10	10	10	0	8	8	12
62	13	10	17	13	7	10	10	8	5	9	12	15	12	20	28	12	15	13	8	20	15	17
61	15	13	18	14	18	25	20	20	27	33	28	25	13	27	31	17	18	15	17	35	35	21
60	16	15	19	15	30	34	27	25	36	43	44	30	15	32	34	24	18	28	45	46	38	22
59	17	15	20	21	36	37	32	30	44	47	46	33	17	42	35	26	19	44	60	50	40	24
58	18	16	21	27	42	39	34	34	45	40	48	36	21	44	36	28	32	48	62	51	42	25
57	19	16	22	50	46	43	36	36	47	50	53	40	30	47	38	31	43	50	63	52	45	26
56	20	17	23	60	50	48	41	39	49	56	55	58	41	51	42	33	46	55	66	56	48	27
55	22	19	37	62	55	52	51	42	57	62	58	62	47	58	45	36	51	56	74	60	50	30
54	35	34	44	64	80	60	60	46	64	67	62	69	54	61	60	44	60	60	77	64	55	34
53	50	64	60	70	92	74	71	54	73	76	82	79	81	72	71	82	74	67	85	72	67	41
52	72	83	80	89	99	87	82	66	84	88	89	95	104	103	91	104	105	85	88	82	80	85
51	84	108	105	117	117	115	98	105	100	105	125	121	126	138	115	135	120	94	103	93	115	
50	127	160	128	140	136	155	180	160	122	135	155	148	155	158	165	164	140	117	117	135		
49	160	180		190	180				178	165	183							181	134			
48																						

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 203 Date: 6-19-55

Time →	0830	0910	0933	1005	1029	1105	1138	1220	1325	1418	1506	1545	1616	1643	1705							
72°																						
71																						
70																						
69																						
68																						
67																						
66									65.2 0	65.2 0	65.5 0											
65	64.5 0							64.5 0	8	3	8			*								
64	20		0	63.5 0	63.3 0		0	26	38	29	20	63.5 0		63.1 0	63.4 0							
63	20	62.8 0	14	23	9	0	10	37	46	35	35	8	62.2 0	2	4							
62	21	14	15	24	11	18	21	43	48	37	38	10	5	81.3 19	24							
61	22	16	15	24	12	20	25	45	50	39	41	19	11	43	34							
60	23	17	16	25	13	21	27	45	52	41	44	31	18	55	45							
59	24	18	17	25	14	22	28	46	53	44	46	37	37	59	53							
58	25	18	17	25	15	23	30	48	54	47	47	43	39	61	56							
57	27	19	18	26	15	25	32	53	56	48	48	59	40	63	58							
56	33	21	23	27	27	28	34	57	58	49	50	60	41	67	60							
55	37	22	27	28	28	40	39	60	59	53	52	61	44	71	65							
54	48	24	32	30	35	50	42	69	63	57	69	63	46	75	74							
53	59	29	47	42	60	72	63	85	68	69	75	70	57	76	77							
52	84	45	56	59	73	83	83	108	91	80	88	82	63	79	83							
51	106	81	79	75	90	100	120	125	110	100	106	97	80	87	93							
50	121	106	107	100	112	122	137	170	153	124	122	115	150	123	108							
49		156	145	150	159	175	165	192	185	150	153	175	180	182	180							
48										200												

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 203 Date: 6-20-55

Time →	0743	0800	0812	0820	0828	0832	0841	0846	0850	0959	1002	1006	1012	1018	1025	1100	1106	1109	1114	1120	1125	1130
72°																						
71																						
70																						
69																						
68																						
Top 67	63.4 11	60.2 18		59.5 38	60.8 28	59.6 55	65.5 9						61.6 25	59.6 29	59.8 29	64.1 25	62.5 21	65.5 7	65.8 10	65.1 13		58 45
66 Bot.	53.2 46	56.8 24		56.8 53		53.9 73	57.5 25						57.8 39	54.1 43	55.5 39	57 45	60.5 23	62.8 12	62.1 17	60 25		54 52
65							65.8 12	65.5 11	65.9 8							65.1 10	65.1 3	65.8 8	65.9 10	65.4 12	65.4 15	
64							13	14	12	64.8 8	64.6 12	64.2 6				25	5	10	12	17	20	69.3 10
63	63.6 11						14	16	15	9	13	15				28	15	12	13	18	25	15
62	11	62.1 2				62.3 18	16	18	18	24	32	25	62.1 23			35	21	20	17	20	29	18
61	14	6			61.3 28	45	19	20	20	27	34	35	26	61.9 15	61.2 10	38	23	25	25	23	32	23
60	17	18	60.4 16	60.8 23	37	53	21	22	23	33	36	40	28	25	27	40	25	28	27	25	33	27
59	24	19	40	43	41	58	22	24	25	39	40	45	33	31	31	42	35	33	29	30	40	38
58	36	20	47	50	47	59	23	28	39	41	47	48	41	33	33	43	38	38	31	35	45	45
57	41	23	59	54	53	61	27	34	45	42	50	52	54	35	36	45	42	44	33	40	47	48
56	46	30	73	67	58	69	32	40	47	45	53	55	58	43	38	50	44	47	38	43	52	49
55	49	40	76	76	64	73	36	47	48	55	58	63	63	46	50	60	50	49	45	45	60	50
54	52	55	82	80	72	79	41	49	50	65	63	69	72	50	56	65	60	55	49	52	65	52
53	58	65	102	92	84	110	51	53	55		70	95	86	76	98			75	67	60	75	60
52	80	79	122	99	91	118	70	75				108	110	86	106			90	78	87	92	92
51	93	100	133	103	106	125	100	85				125	145	114	120				94	105	110	112
50	101	117	145	112	121	155							163	155	142				110	135	125	148
49																						
48																						

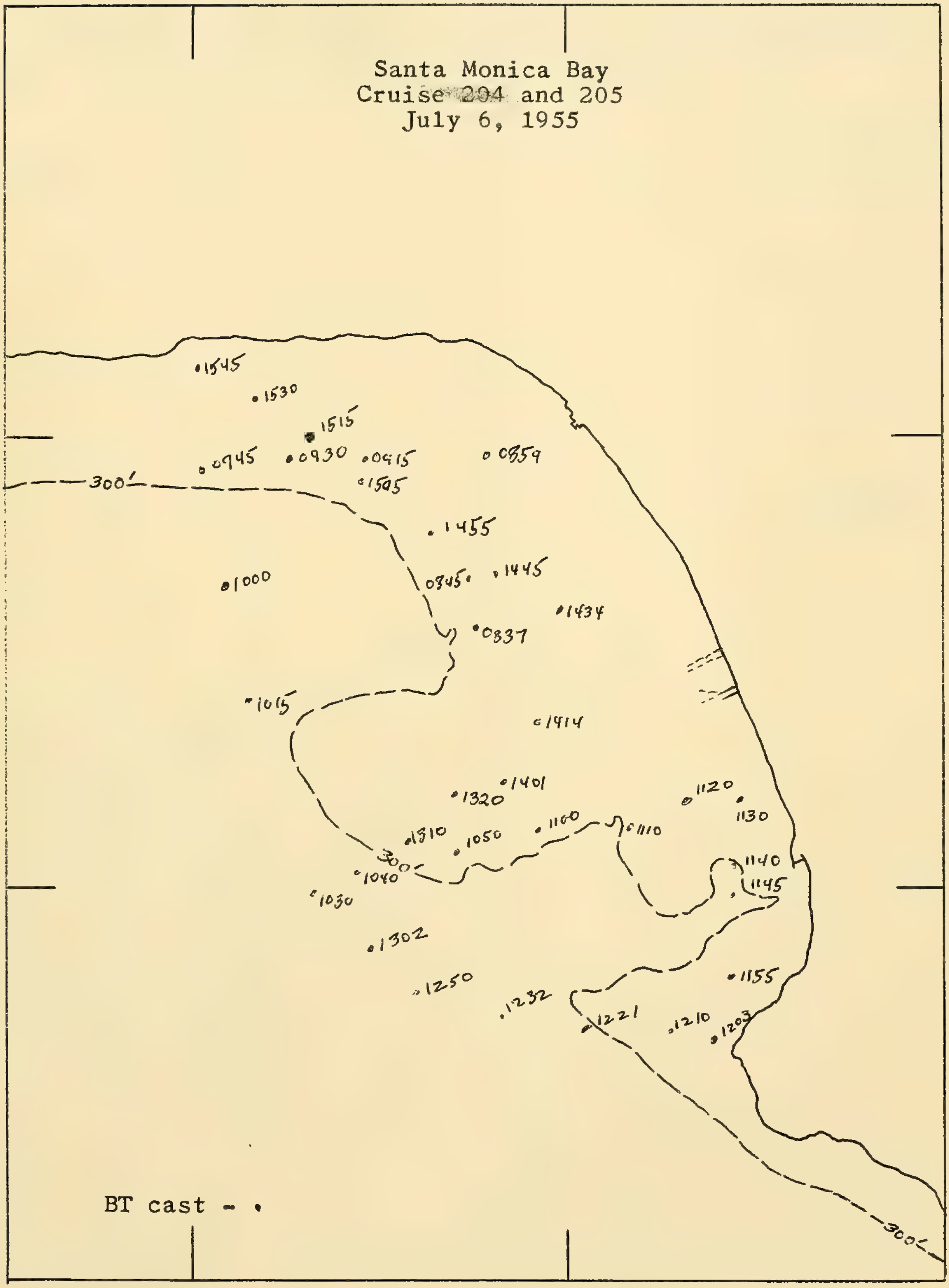
APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 203

Date: 6-20-55

Time →	1135	1140	1145	1157	1205	1224	1237	1240	1244	1248	1255	1300	1310	1320								
72°																						
71																						
70																						
69																						
68										64.8 12												
Top 67	60 35	57.5 52		64.6 8	64.3 20	65.5 8			65.7 11	57.9 39	64.9 16	64.2 18	63 18									
Bot. 66	53.9 50	54.2 57		58.8 22	54.5 38	54.8 33			55.4 32	0	55.8 29	54.2 42	56.5 26									
65						65.9 10	65.8 11	65.9 14	65.8 10	13	65.2 15		65.4 8									
64				64.7 10	64.8 20	12	16	16	11	13	17	64.9 20	12	64.5 12								
63	63.8 8	63.8 10	63.8 18	15	22	13	22	18	11	13	18	24	19	17								
62	20	25	25	18	24	18	23	21	15	14	19	26	22	20								
61	28	33	30	20	25	23	24	23	18	15	20	27	23	23								
60	35	38	34	21	26	24	27	25	19	17	21	30	24	25								
59	38	44	39	22	27	26	32	32	21	20	22	32	24	32								
58	40	48	41	30	34	28	36	34	23	22	25	33	25	34								
57	45	53	44	48	35	30	38	36	28	24	27	34	26	36								
56	47	54	46	50	36	32		39	32	28	28	37	29	42								
55	48	55	48	52	38	33		45	37	31	35	39	37	49								
54	49	60	57	54	55	40		57	50	35	47	44	40	58								
53	75	70	63	77	79	50			60	40	65	55	53	73								
52	97	96	85	103	90	62			67	65	83	65	70	102								
51	105	125	112	125	110	80			80	73	98	85	85	118								
50	137	149	163	153	128	95				87	114	97	110	155								
49																						
48																						



Santa Monica Bay
Cruise 204 and 205
July 6, 1955

BT cast - •

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 204, 205 Date: 7-6-55

Cruise Description: A detailed bathythermograph survey was run over the entire area of Santa Monica Bay to the 250 fathom line. Underway bottom samples were obtained along with several Hayward Grab samples. A fathogram record was made of the day's run.

Time →	1026	0837	0845	0859	0915	0930	0945	1000	1015	1030	1040	1050	1100	1110	1120	1130	1140	1145	1155	1203	1210	1221
72°																						
71																						
70																						
69																						
68																						
67																						
66																6	66.5 3	66.8 10	66.5 5			
65										0						9	7	11	9	0	65.8 7	0
64										4						11	9	12	11	4	10	5
63	0						63.8 4	63.3 5	63.8 32	40	63.8 6		63.2 2		63.8 6	15	11	15	15	5	11	15
62	13	0		62.8 6	0	62.8 15	42	54	48	57	60	62.5 40	5	0	15	17	14	20	18	7	13	29
61	19	56	61.5 30	9	30	60	52	58	50	60	65	71	33	21	26	19	19	22	21	9	18	40
60	23	66	42	10	35	68	54	64	51	62	67	77	38	35	34	20	21	26	24	10	23	47
59	25	67	43	29	36	78	57	68	52	63	71	78	40	44	39	22	25	32	31	14	24	54
58	26	68	43	33	38	80	73	69	53	66	73	80	41	47	42	23	27	39	32	19	25	57
57	27	69	45	35	42	83	77	70	54	69	75	86	50	55	51	24	28	41	35	21	27	60
56	33	69	65	37	54	85	80	73	55	78	77	98	63	59	54	25	30	42	36	24	38	63
55	36	73	75	44	65	87	84	74	59	87	80	105	67	68	61	30	34	47	40	25	46	70
54	48	97	79	55	76	92	87	75	71	110	100	111	78	79	76	34	40	52	47	28	55	95
53	64	103	83		87	106	96	94	90	121	116	130	100	93	82	40	45	66	61	46	67	103
52	76	109	88		96	115	115	104	116	150	140	137	137	103	90		55	92	86	55	92	112
51	102	120	100		110	180	129	123	139	176	160	156	158	124	119		71	105	101	100	103	128
50	120	128	135		125		160	169	169	195	173	167	165	140			132	128	140		129	155
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 204,205 Date: 7-6-55

Time →	1232	1250	1302	1310	1320	1345	1481	1414	1425	1434	1445	1455	1505	1515	1530	1545						
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65		0	0									65·2 4										
64	64·5 5	5	10	64·9 7	64·6 5	0			64·3 4	64·2 3		8			0							
63	10	42	45	20	30	12	63·5 8	638 12	16	10	63·8 15	12	63·5 12	63·6 10	12	63·5 5						
62	42	64	72	60	48	55	52	40	55	45	38	41	31	25	18	12						
61	54	68	77	66	50	85	57	42	87	63	43	50	57	52	43	26						
60	56	70	80	67	51	90	59	60	91	68	60	54	62	71	62	33						
59	60	72	83	72	53	91	60	70	95	76	83	56	65	73	87	46						
58	62	80	85	73	54	92	63	75	98	83	88	58	67	74	72	55						
57	69	86	87	74	69	98	65	81	106	84	93	60	68	75	75	58						
56	72	88	90	76	80	105	69	88	107	86	97	62	70	76	77							
55	83	90	103	90	81	118	76	94	108		98	65	72	78	80							
54	90	106	112	100	96	119	115	100	109		100	92	77	81	83							
53	108	128	117	110	159	127	128	103	114		106	112	82	87	88							
52	115	172	142	150	172	134	139	106				118	91	99	95							
51	143	190	180	173	184	140	150	114				124	106	108	111							
50	168	202	196	185	197	155	164	167				165	164	165								
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 204, 205 Date: 7-7-55

Cruise Description: Large bottom samples supplemented by underway samples were obtained north of Santa Monica Canyon and near the Hyperion outfall. Detailed bathythermograph traces were made between the Santa Monica breakwater and a location four miles south of Palos Verdes Point.

Time →	1136	1145	1150	1155	1159	1205	1210	1220	*1225	*1230	1235	1240	1245	1250	1255	1300	1305	1310	1315	1320	1325	1330
72°																						
71																						
70																						
69																						
68																						
67																						
66														0	66.2 8	10	10	11	10	66.8 12	8	
65	0	0									65.5 5		65.5 5	7	10	15	11	13	12	15	9	65.5 10
64	3	2			64.1 3	64.3 3		64.6 5			6	0	11	9	14	18	12	16	15	17	10	14
63	20	8	63.6 7	63.5 8	9	8	63.5 7	19	0	63.8 2	7	25	15	11	16	19	15	17	21	19	12	15
62	24	24	25	25	25	22	47	37	14	3	15	27	21	21	23	20	16	19	25	20	14	16
61	26	38	38	43	35	55	48	41	16	31	21	30	24	29	27	21	17	20	26	21	15	17
60	30	42	42	47	43	58	49	43	30	32	25	34	33	33	29	30	19	22	27	22	16	20
59	35	46	48	53	45	61	52	46	39	34	28	37	36	35	32	34	20	28	28	25	17	25
58	36	49	52	58	55	68	55	48	46	36	29	41	43	45	38	35	21	29	30	27	20	32
57	38	52	56	65	66	72	62	55	53	59	31	44	45	47	40	37	30	31	34	29	25	36
56	40	54	65	74	79	81	65	60	58	60	33	46	50	49	41	38	36	32	38	30	46	60
55		56	69	86	89	85	66	62	62	62	44	48	52	55	50	49	39	38	40	38	65	67
54				90	93	89	67	63	65		50	53	55	68	59	53	44	45	47	51	75	74
53				93	96	90	70	66			60	69	63	75	80	61	52	59	59	83	94	92
52							73					90	70	87	95	80	68	79	85	96	112	107
51													95	100	104	91	95	107	104	125	150	126
50														145	140	128	135	140	136	155	185	151
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

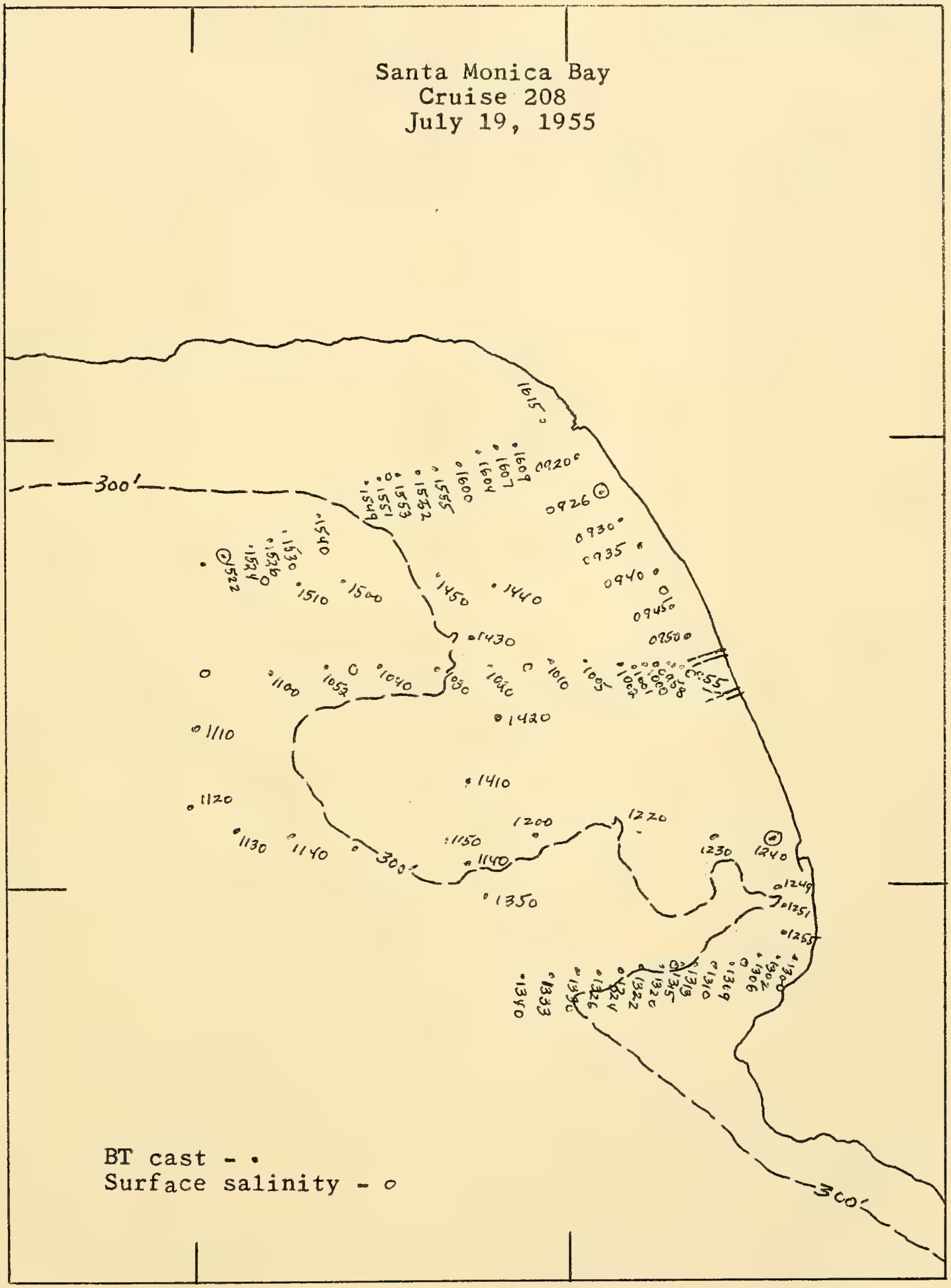
Cruise Number 204, 205 Date: 7-7-55

Time →	1335	1340																				
72°																						
71																						
70																						
69																						
68																						
67																						
66	66.8 5																					
65	7																					
64	14																					
63	15	63.8 5																				
62	16	10																				
61	18	18																				
60	20	22																				
59	24	34																				
58	38	41																				
57	42	52																				
56	50	61																				
55	55	63																				
54	58	65																				
53	67	75																				
52	100	95																				
51	115	135																				
50																						
49																						
48																						

TEMPERATURE INVERSIONS

Cruise 204, 205 Date: 7-7-55

Time:	1230
Temp.	Depth
62	6
63	12
64	16-23
63	25
62	27
61	31



Santa Monica Bay
Cruise 208
July 19, 1955

BT cast - •
Surface salinity - o

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 208 Date: 7-19-55

Time →	1324	1326	1330	1333	1340	1350	1400	1410	1420	1430	1440	1450	1500	1510	1520 D.	1520 U.	1522 D.	1522 U.	1524 D.	1524 U.	1526	1530
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65		0																				
64		24	0	64.8 9									0– 7		0– 9						0	64.5 8
63	63.5 24	25	24	17			63.5 12		0	0		63.4 8°	10	63.5 8	12	0– 12	63.5 15	63.2 21	0– 8	0– 9	8	11
62	26	26	24	19	62.8 9	62.2 5	20	62.5 10	9	4	62.8 7	9	13	9	47	22	42	26	9	57	11	12
61	27	27	25	20	14	12	25	21	14	9	10	10	16	12	48	23	43	28	10	60	12	14
60	30	29	26	22	15	16	42	32	16	15	14	11	20	14	50	25	44	30	11	62	14	15
59	31	30	28	23	18	30	50	38	21	21	17	15	22	21	53	27	45	31	15	63	16	16
58	33	23	29	31	38	35	61	43	37	27	21	17	24	22	54	28	46	32	17	68	20	24
57	34	39	35	33	45	45	65	47	42	29	26	19	28	25	55	31	48	36	23	69	21	26
56	36	44	45	39	47	52	73	50	45	33	30	23	31	27	56	33	49	38	25	70	22	27
55	43	51	56	53	48	53	80	53	50	38	31	25	32	28	58	35	52	44	26– 38	72	24	30
54	55	65	59	65	52	55	84	54	54	44	32	26	33	29	60	42	55	49	68	74	25	31
53	70	75	74	72	81	69	101	56	59	49	33	27	37	30	65	49	62	53	72	79	28	34
52	78	83	91	95	93	74	105	66	77	54	52	50	62	35	70	58	63	62	75	82	39	53
51	100	102	109	118	113	99	128	100	98	85	89	65	75	65	95	85	90	92	90	96	55	62
50	135	125	140	137	126	150	165	148	108	117	117	106	104	81	115	115	110	110	113	113	76	79
49	170	155	161	190	175	175	197	173	195	150	185	150	185	145	155	155	140	140	160	160	160	145
48	198	195	205			205									210		190	190				

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 208 Date: 7-19-55

Cruise Description: Thermograms, observations of surface water phenomena and Fathograms were made over the area of the Santa Monica shelf.

Time →	STA. 3269	0920	0926	0930	0935	0940	0945	0950	0955	0956	0957	0958	1000	1001	1002	1005	1010	1020	1030	1040	1052	1100
72°																						
71																						
70																						
69																						
68																						
67		0	1																			
66		5	3	3	4	4																
65		6	9	5	5	8			0													
64		8	10	10	8	9			0													
63	5	12	11	13	10	15	1	13	23	18		21	21	22	16	22	0	0	2	0		
62	6	13	12	14	16	20	3-7	23	24	20	0	22	22	22	21	29	23	10	3	2		15
61	7	15	14	16	20	22	21	24	25	21	24	24	23	23	22	30	25	44	10	9	11	17
60	8	17	17	19	30	23	27	29	26	23	25	26	24	25	23	32	30	45	16	14	14	19
59	10	24	22	21	31	24	30	30	27	27	28	27	28	27	25	34	37	47	17	15	17	21
58	12	29	26	24	32	28	32	31	29	29	30	30	32	29	26	35	41	53	30	19	19	28
57	17	34	28	27	33	30	34	35	32	32	33	33	35	34	29	38	44	61	44	28	29	31
56	24	39	31	28	34	32	38	44	37	35	35	36	37	37	34	42	45	67	49	34	39	36
55	30			31	38	33	40	58	55	38	38	39	41	38	39	46	47	71	56	49	41	33
54				40	52	45	51			63	56	56	49	46	45	50	60	74	63	54	43	41
53											63	75	63	67	52	63	70	100	69	58	47	44
52											68	79	82	73	67	82	80	114	95	90	60	56
51												85	95	88	90	100	99	127	120	114	84	78
50															105	133	129	148	173	149	113	101
49																						180
48																						200

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 208

Date: 7-19-55

Time →	1110	1120	1130	1140	1150	1200	1210	1220	1230	1240	1249	1251	1255	1300	1302	1306	1309	1310	1313	1316	1320	1322
72°																						
71																						
70																						
69																						
68											3	3										
67								67.1 2	67.3 3	11	4	5			67.5 5	0	0				0-6	
66								13	10	12	4	6		66.3 4	6	4	4	66.8 3	0		9	
65								15	22	15	6	7	65.4 5	5	6	8	6	4	9	0-7	10	65.8 9
64	64.5 6							18	23	18	15	10	7	6	7	10	10	7	11	10	14	10
63	19	63.2 2					63.8 7	23	25	19	22	22	8	12	14	16	20	9	19	11	16	10
62	23	11	62.8 14	0	62.5 10		13	25	25	23	25	25	10	14	18	19	22	12	23	15	17	11
61	25	12	14	10	11	61.8 5	15	28	26	24	26	26	13	15	20	22	24	15	24	17	18	12
60	29	13	15	16	13	10	17	29	27	25	27	27	17	21	23	23	25	20	25	18	19	13
59	34	14	17	19	16	25	34	33	28	26	30	31	20	22	35	24	27	23	28	18	23	14
58	38	15	23	22	24	48	41	35	28	27	33	39	24	23	38	25	29	26	30	19	25	20
57	47	18	29	25	28	51	48	37	28	29	34	43	27	29	44	31	33	32	32	19	31	23
56	52	22	36	30	31	62	58	41	29	30	36	46	33	36	49	37	36	40	37	20	35	25
55	54	27	41	35	41	65	67	50	33	33	38	47	42	48	54	41	47	46	43	44	39	35
54	57	31	43	37	53	67	74	52	40	35	41	51	55	50	56	46	55	54	49	48	48	44
53	59	40	54	45	56	68	90	56	61	45	46	58	63	65	63	60	56	65	60	52	62	60
52	63	51	59	83	102	87	114	72	75	54	53	63	66	75	79	71	75	75	67	69	73	68
51	85	79	90	96	107	105	124	104	82	69	62	74	75	83	91	92	90	89	83	79	100	91
50	115	102	111	116	150	134		131	97	83	75	90	113	110	120	116	115	121	96	104	129	120
49		140	155	156	195	175		145	105	100	105	145		149	160	150	140	150	130	138	175	156
48		198	185	195				165	170		170	195		173	203	195	200	210	190	170	200	190

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 208

Date: 7-19-55

Time →	1540	1549	1551	1553	1555	1600	1604	1607	1609	1615
72°										
71										
70										
69										
68									0	
67			0- 5					0	5	
66	66.5 6	66.8 11	8	0- 9		66.2 3		6	5	66.5 7
65	12	12	10	10	65.8 9	5		6	6	11
64	12	13	11	11	10	10	64.4 7	7	7	13
63	13	13	12	12	11	11	9	8	8	26
62	14	14	13	13	12	12	12	10	9	38
61	15	14	14	15	13	13	14	12	14	45
60	16	15	14	16	13	14	15	14	23	
59	17	15	15	17	16	17	20	19	34	
58	18	16	16	19	20	28	30	29	50	
57	21	17	22	22	28	31	35	45	70	
56	26	28	34	35	33	37	39	69	73	
55	28	32	39	37	35	47	72	79	74	
54	29	35	47	39	43	60	75			
53	33	65	66	41	60	100	79			
52	48	79	74	56	96	117	97			
51	67	86	98	82	125	130				
50	110	130	146	155						
49	185	175	170							
48										

TEMPERATURE INVERSIONS

Cruise 208 Date: 7-19-55

Time: 0945		0950		0955		0956	
Temp.	Depth	Temp.	Depth	Temp.	Depth	Temp.	Depth
63.2	Surf.	63.3	Surf.	65.9	Surf.	63.5	Surf.
62	8	64	5	65	5	64	5
62	12	65	14	64	5	65	6
63	13	65	17	64	10	66	9
63.7	18	64	17	65	15	65	20
63	23	63	18	65	26	64	22
62	24	62	28	64	27	63	23
61	26	61	29				
62	28	60	34				
62	30						
61	31						
60	32						

Time: 0957		0958		1000		1001		1100	
Temp.	Depth	Temp.	Depth	Temp.	Depth	Temp.	Depth	Temp.	Depth
62	Surf.	63.2	Surf.	63.8	Surf.	63.5	Surf.	62.1	Surf.
63	3	64	5	64	5	64	5	63	5
64	6	65	6	65	6	64	15	63	15
65	10	66	7	66	9				
65	24	66	14	65	12				
64	26	65	15	64	18				
63	27	64	25						
62	28	63	26						

TEMPERATURE INVERSIONS

Cruise 208 Date: 7-19-55

Time:	1315	1324		1326		1330		1520D	
Temp.	Depth	Temp.	Depth	Temp.	Depth	Temp.	Depth	Temp.	Depth
65	Surf.	63.5	Surf.	65	Surf.	64	Surf.	64	Surf.
65	7	64	6	66	5	65	7	63	12
64	10	65	7	66	15	65	18	63	20
		66	8	65	22	64	23	64	34
		67	9					63	45
		66	19						
		65	20						
		64	24						

Time:	1522D	1524D	
Temp.	Depth	Temp.	Depth
63.5	Surf.	63	Surf.
64	7	62	9
63	15	55	26-38
63	24	56	40
63	40	57	41
		58	47-59
		57	63
		56	64
		55	65

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 208

Date: 7-20-55

Cruise Description: Controlled samples for bacterial counts were collected, dredge hauls were taken on the central Santa Monica shelf, and a detailed temperature and surface water profile was made in the Hyperion area. Fathograms were made and surface water patterns observed.

Time →	0825	0958	0958	1000	1030	1035	1039	1041	1044	1046	1048	1051	1053	1057	* 1059	* 1100	* 1102	* 1104				
72°																						
71																						
70																						
69										04	0											
68								68.3 8	68.5 4	5	6	68.1 7	68.2 4	0								
67							67.2 2	9	9	9	9	8	9	8	0-9							
66							9	11	10	10	13	11	11	13	13							
65							14	12	12	15	15	14	13	17	14							
64							19	17	19	19	16	17	15	18	15							
63						63.5 20	22	24	30	22	22	22	22	19	18	0-7		0				
62	0	62.5 8	62.5 4	62.5 5	62.8 10	21	23	25	31	26	24	26	26	21	20	16	0	7				
61	5	10 13 17	9	14	28	23	25	28	33	28	28	32	27	23	22	17	5	23				
60	9	11& 39	21	23	31	25	29	32	34	30	31	34	29	25	25	20	36	30				
59	10	47	23	33	32	31	33	33	35	32	33	38	35	35	30	29	43	32				
58	11	50	24	45	40	38	36	36	36	37	40	42	38	38	34	32	45	36				
57	20	52	26	56	45	40	38	40	39	46	45	45	44	41	36	38	48	39				
56	22	59	35	63	54	43	44	43	44	53	51	50	48	45	40	44	50	49				
55	25	64	45	79	59	48	48	45	45	57	55	55	52	48	43	52	70	66				
54	29	65	48	80	62	54	51	48	50	60	61	62	56	57	45	60						
53	50	70	57	84	77	62	62	54	57	68	70	73	65	68	80							
52	65	72	60	88	88	67	70	60	66	84	85	81	76	84								
51	67	75	65	91	96	76	85	82	91	103	104	95	90	100								
50	107	89	89	109	133	115	108	105	109	122	122	112	109									
49	155	174	174	172	190	170	160	170	150	160	170											
48	186																					

TEMPERATURE INVERSIONS

Cruise 208 Date: 7-20-55

Time:	1059	1100		1102		1104	
Temp.	Depth	Temp.	Depth	Temp.	Depth	Temp.	Depth
65.5	Surf.	63	Surf.	62	Surf.	63	Surf.
66	8	63	7	61	5	62	7
66	9	63	15	61	8	63	10
65	10			62	10	63	12
64	11			62	16	62	15
63	12			61	21	61	23
63	13						
64	14						
65	15						
65	18						
64	19						
63	20						
62	22						
61	23						
60	28						
59	31						
58	33						
57	34						
56	37						
55	38						
54	42						

APPENDIX TO CRUISES

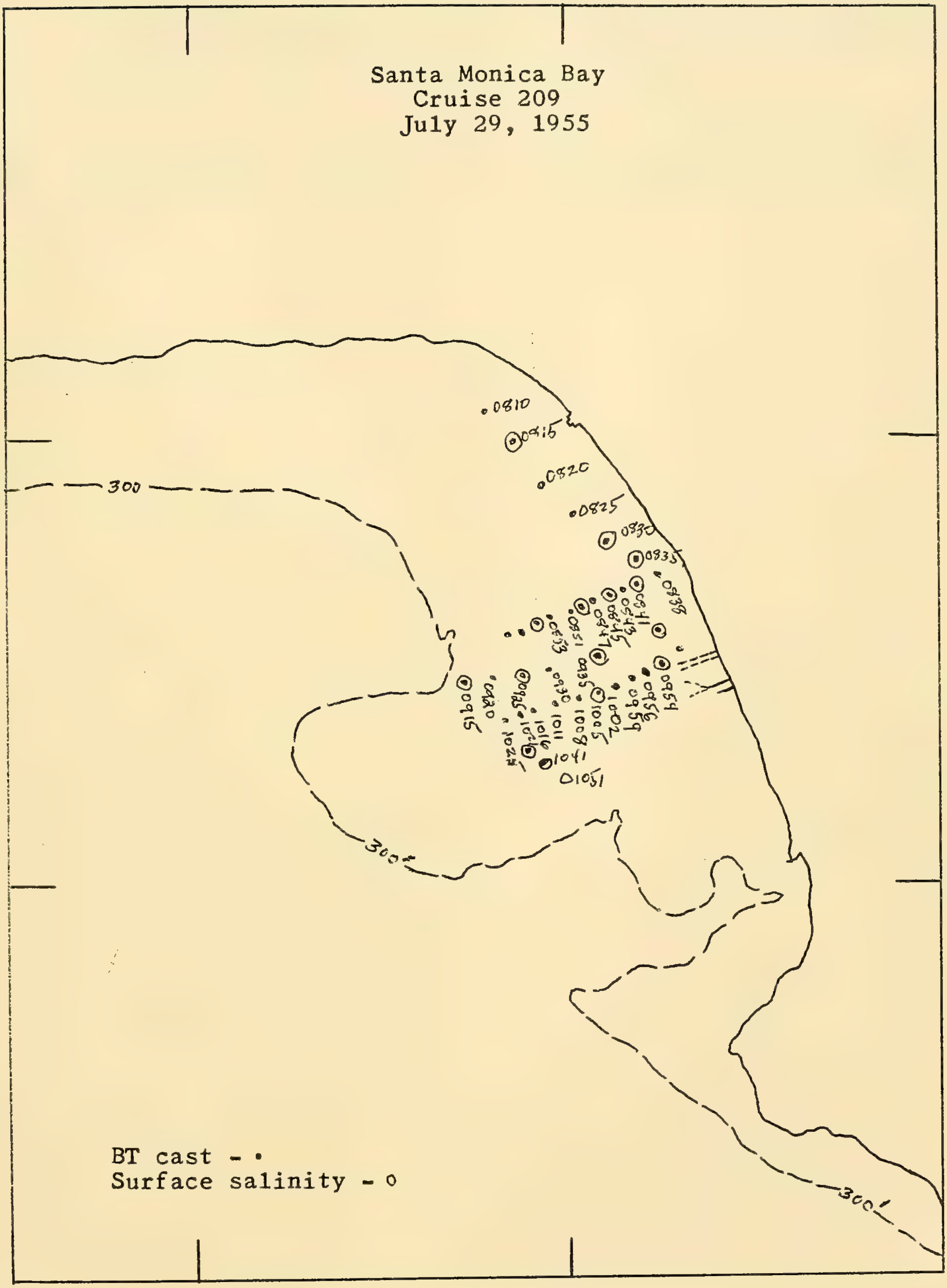
BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 209 Date: 7-28-55

Location: See corresponding Hydrographic Stations.

Cruise Description: A series of 15 Hydrographic Stations were occupied. Snapper samples of bottom material were taken and a Bathythermograph trace was obtained at each station. Water transparency and sea color were recorded.

Station No. →	3287	3288	3289	3290	3290½ (1120)	3291	3292	3293	3294	3295	3296	3297	3298	3299	3300	3301						
72°																						
71																						
70																						
69																						
68																						
67													67.4 2									
66						66.4 3	0				66.5 19		12									
65						16	3	65.2 2			24		16	65.8 4		0						
64					64.5 7	36	15	5	0	64.1 2	30	0- 7	30	14	64.2 2	18						
63					25	44	33	20	12	12	34	14	55	20	8	20						
62					41	47	37	45	26	15	39	36	65	22	13	23						
61			61.5 23	61.9 28	53	48	39	49	40	25	44	46	68	26	25	25						
60	60.2 9	60.4 20	48	50	60	51	43	53	44	42	50	51	73	30	27	28						
59	20	51	57	57	62	53	47	55	67	44	55	55	75	34	30	32						
58	46	55	61	63	66	60	57	58	77	50	57	72	77	35	35	35						
57	51	74	64	65	71	69	65	75	85	67	60	77	86	45	37	42						
56	55	77	68	69	76	75	72	84	92	70	70	82	90	51	40	46						
55	60	80	72	75	87	87	78	87	100	80	73	90	98	66	43	55						
54		83	78	80	95	96	85	95	112	84	77	96	106	85	70							
53		86	85	89	100	108	95	102	122	89	92	116	120	102								
52		92	95	98	145	124	120	141	130	105	110	136	145	129								
51		103		122		170	172						162	162								
50																						
49																						
48																						



Santa Monica Bay
Cruise 209
July 29, 1955

BT cast - •
Surface salinity - o

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 209 Date: 7-29-55

Cruise Description: A bathythermograph survey was made in the area of the Hyperion Outfall. Six hydrographic stations were occupied, snapper sediment samples were collected, and water transparency and sea color were recorded.

Time →	0810	0815	0820	0825	0830	0835	0838	0841	0843	0845	0847	0849	0851	0853	0855	0900	0905	0915	0920	0925	0930	0935
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65					0	65.3 4	65.1 17	0	0	65.1 4												
64	64.7 15	64.4 10	64.3 7	64.6 14	14	16	30	21	15	13		64.2 10	0	0	0			0-15		0	64.1 2	0
63	20	19	10	25	16	27	35	25	22	20	63.8 21	25	12	21	20	63.5 16	63.5 30	35	63.8 28	20	15	10
62	28	26	15	27	21	32	37	28	25	24	28	40	31	32	27	25	40	41	37	30	20	17
61	35	31	19	30	30	33	41	30	29	35	45	48	45	40	36	27	41	43	38	32	26	37
60	41	35	27	34	38	42	42	34	32	41	50	59	57	42	38	28	42	44	40	33	27	43
59	49	49	35	41	48	43	43	53	36	45	55	69	75	45	41	30	44	46	45	34	39	46
58	58	62	54	49	51	45	46	58	64	52	60	74	89	76	55	37	45	48	47	36	51	65
57	62	67	61	62	55			60	66	66	69	79	94	88	70	42	51	50	51	47	72	70
56	66	72	70	65				63	68	77	85	90	102	100	90	51	58	53	55	52	83	82
55								68	71	86	97	100	110	114	100	99	63	57	59	110	98	92
54									77	92	105	107		124	110	106	74	65	81	115	110	98
53									86	100	110	121		133	122	128	106	106	128	131	129	122
52														151		156	145	132	165	170	152	145
51																		190	195		174	
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 209

Date: 7-29-55

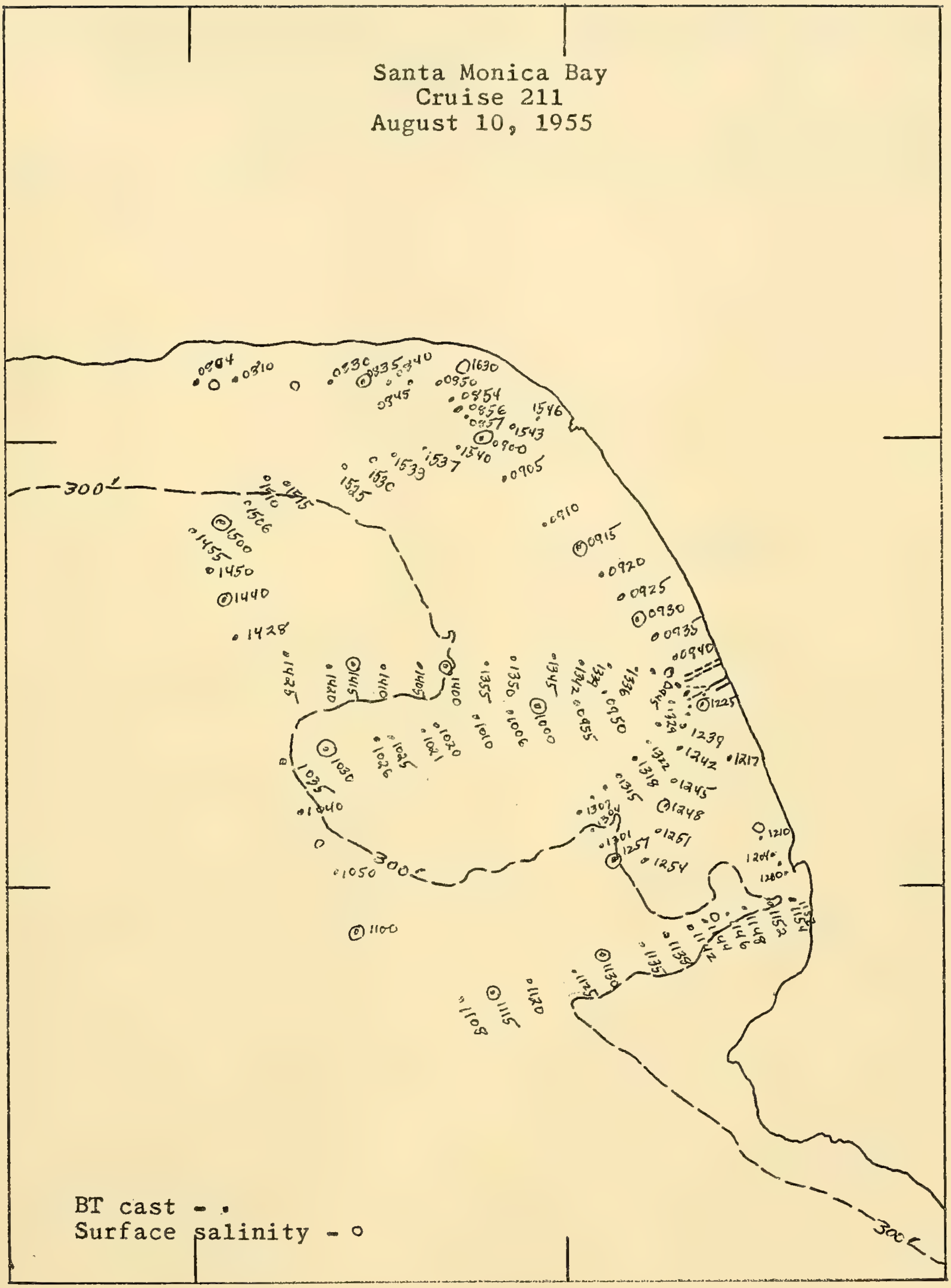
Time →	0945	0950	0954	0956*	0959	1002	1005	1008	1011	1016	1021	1025	1030
72°													
71													
70													
69													
68													
67													
66													
65		65.3 3			65.1 11	65.5 7		65.1 2					
64	64.5 8	13	64.3 20	64.2 3	27	19	0	7	64.1 2	64.2 7	64.2 7	64.5 21	64.5 20
63	22	22	23	27	32	35	25	17	15	30	30	37	34
62	32	29	28	31	35	39	31	28	27	38	41	46	45
61	38	30	31	35	37	45	37	58	33	39	45	47	46
60	45	40	33	38	43	50	49	65	34	40	47	48	47
59	54	45	40	42	50	55	56	68	39	41	48	49	48
58	60		47	52	53	57	62	72	49	45	50	51	52
57	67		50	57	56	64	73	75	56	47	51	54	54
56	80		60		85	72	87	81	70	50	54	56	58
55	100		66		94	77	92	108	86	58	60	62	70
54	110				99		100	119	95	119	70	71	80
53	115						121	130	105	124	130	105	110
52								148		150	171	142	175
51										175			
50													
49													
48													

TEMPERATURE INVERSIONS

Cruise 209 Date: 7-29-55

Time: 0956

Temp.	Depth
64.2	Surf.
64	3
64	4
65	5
65	11
64	25
63	27



Santa Monica Bay
Cruise 211
August 10, 1955

BT cast - •
Surface salinity - o

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 211 Date: 8-10-55

Cruise Description: A Bathythermograph traverse was run over the Santa Monica Bay area and underway surface water samples were collected. Fathometer profiles were obtained on several courses crossing the shelf.

Time →	0804	0810	0830	0835	0840	0845	0850	0854	0856	0857	0900	0905	0910	0915	0920	0925	0930	0935	0940	*0945	*0950	0955
72°																						
71																						
70																						
69																						
68							51'	48'	60'		60'	60'										
67																						
66														0-6								
65									0- 8	65.1 5	65.1 3	65.2 5	65.2 8	8	65.9 8	65.6 4	65.6 4					
64					64.1 5	64.4 8		64.5 10	17	13	13	8	10	10	11	7	13	64.6 -	0			64.4 21
63	0-8	0-6	63.6 19	63.8 28	7	11	63.8 6'	12	20	15	15	11	12	12	14	11	16	18	11	63.1 24	63.5 3	25
62	11	7	25	34	10	12	6	13	22	19	18	12	13	14	17	13	17	21	14	32	34	28
61	17	15	32	38	16	14	12	15	26	21	20	15	15	15	18	16	19	23	22	37	38	31
60	20	18	33	41	20	17	14	16	28	23	22	18	17	18	22	20	22	32	30	45	43	39
59	22	22	34	44	23	19	15	43	46	39	31	26	25	29	29	28	33	37	42	52	50	40
58	25	24	37	47	28	25	17	47	53	55	52	55	45	40	37	38	42	47	46	59	54	47
57	43	32	41	52	39	52	45	48	55	56	55	57	58	49	47	47	45	52	49	62	60	50
56	46	38	54	68	53	54	47	49	57	58	56	60	63	58	55	52	53	54	56	65	68	52
55	54	45	60	71	56	57	48	65		67	66	71	67	69	68	68	65	61	59	69	72	55
54		61	68	74	64	62							78	78	72	73	80	67	66	72	75	68
53		69	79	80	70	64							84	84	81	80	83	72	72	77	78	82
52		85	87	84	78	69									86	86	85	76	77		95	96
51																					115	113
50																					125	
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 211 Date: 8-10-55

Time →	1000	1006	1010	1015	*1020	1021	*1025	1026	1030	1035	1040	1050	1100	1108	1115	1120	1125	1130	1135	1138	1142	1144
72°																						
71																						
70																						
69																						
68																						
67																						
66															0	0	0				66.4 4	
65				0							0.3	0	65.5 10	65.9 20	35	6	5	65.5 11	65.4 5	0	8	0
64	64.5 11	64.4 8	64.7 6	3			64.5 7		64.6 35	64.9 13	6	28	35	41	48	20	10	16	8	13	11	7
63	13	17	15	5	63.5 3	63.5 3	7	63.8 4	44	20	13	30	39	43	49	41	14	18	10	17	14	14
62	17	19	17	7	4	4	7	5	54	24	17	31	40	47	52	43	20	20	14	24	18	17
61	22	21	22	8	5	5	7	9	56	27	18	32	42	48	53	44	32	25	22	28	20	21
60	34	24	24	10	5	8	7	11	61	28	20	36	44	49	54	45	35	30	23	29	22	25
59	41	29	25	11	8	16	7	14	63	31	21	38	47	51	55	46	42	36	26	32	23	26
58	43	35	28	12	27	18	18	15	65	33	22	39	48	52	57	49	47	42	35	35	28	27
57	48	57	30	17	28	19	19	17	67	35	24	41	53	53	60	58	50	47	42	43	37	28
56	51	60	36	30	28	20	21	18	69	38	31	46	57	54	65	65	60	55	45	46	43	30
55	54	62	49	44	28	25	25	25	70	40	38	55	64	56	73	69	63	60	48	48	45	47
54	60	66	54	50	35	35	31	31	71	42	44	62	67	67	96	73	67	70	54	55	55	50
53	76	83	67	72	52	52	40	40	74	48	61	79	83	86	106	88	77	87	75	66	65	53
52	82	101	82	105	68	68	51	51	76	55	70	89	106	105	114	105	100	118	85	80	82	63
51	115	112	108	115	100	100	68	68	82	68	90	114	121	125	140	135	130	142	100	110	100	85
50	160	154	130	121	135	135	128	128	132	127	160	158	169	140	174	170	158	175	150	140	125	106
49		183	190	195	175	175	195	195	170	199	181	177	200	170	200	187	185	200	185	160	170	118
48		190							220		220	202		210		225	210	222	220	210	209	160

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 211 Date: 8-10-55

Time →	1146	1148	1152	1154	1157	1200	1202	1204	1210	1217	1225	1227	1230	1233	1236	1239	1242	1245	1248	1251	1254	1257
72°																						
71																						
70																						
69																						
68																						
67					0				0													
66	66.4 6	66.5 8	66.3 3	66.5 3	5				8	0												
65	7	11	8	9	10	65.8 6	65.5 7	65.5 5	12	3	0	0				0-5	0-5	65.3 5	65.1 5	0-4	65.2 3	0
64	11	13	14	12	13	12	18	11	17	10	12	13	0-9	64.4 5	64.5 5	8	7	6	7	6	7	19
63	13	14	17	16	15	14	23	15	24	17	19	18	12	17	11	10	13	8	9	12	11	28
62	14	15	18	18	17	15	27	18	32	24	27	24	15	19	15	12	20	20	16	17	17	32
61	15	17	19	19	18	17	29	20	33	30	38	30	24	23	24	20	27	30	25	22	20	36
60	17	20	21	22	21	20	30	22	34	34	43	47	32	25	28	25	30	35	35	38	25	40
59	22	22	26	25	28	25	31	23	35	37	47	49	45	31	34	29	33	38	38	43	30	43
58	25	25	29	29	31	28	35	26	39	39	54	50	51	45	38	31	38	40	41	46	35	45
57	26	28	31	32	42	38	38	34	41	43	55	52	56	54	48	35	42	42	45	47	39	52
56	28	32	35	38	49	39	41	39	45	52	57	56	59	63	54	39	48	48	52	54	42	55
55	35	37	42	42	53	40	43	50	54	57		60	63	68	63	41	52	53	57	65	51	65
54	41	43	45	45	62		55		63					73	66	54	56	56	64	72	60	75
53	59	55	52	65										75	69	59	65	61	70	89	79	93
52	67	68	83											85	80	74	76	69	84	110	89	99
51	80	96	92												96	103	95	92	102	128	111	125
50	105	113	115													125	115	110	121	155	143	155
49	145	133	145														150	130	143	175	170	185
48	185	175	188																200	225	215	210

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 211 Date: 8-10-55

Time →	1301	1304	1307	1310	1312	1315	1318	1322	1326	1329	1331	1333	1336	1339	1342	1345	1350	1355	1400	1405	1410	1415
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65	65.5 7		0	65.4 6	0	0-5	0-5	0					0	65.2 8	65.2 7	65.3 15		65.3 5	65.2 3	65.2 4	0	65.2 10
64	19	64.5 6	12	14	19	14	6	10	64.4 7	0-7	64.2 8	0-28	7	15	11	20	64.6 20	9	19	19	14	18
63	27	9	25	16	26	16	9	16	11	14	17	31	17	19	17	23	32	18	24	31	20	26
62	34	15	30	22	30	18	17	19	15	15	18	34	25	26	20	26	38	20	26	37	25	32
61	37	23	36	25	33	26	20	24	18	18	21	37	28	32	37	30	41	29	31	40	29	38
60	39	28	42	31	40	31	25	26	21	20	24	39	32	35	40	60	43	36	38	43	33	42
59	48	30	47	38	46	37	27	29	27	29	28	41	34	36	44	62	50	40	39	50	36	48
58	50	38	48	42	49	40	28	35	30	40	38	44	37	37	45	64	78	46	41	65	42	54
57	53	44	56	46	51	42	32	41	38	50	45	50	39	39	47	65	82	51	45	71	52	57
56	55	47	60	49	54	45	34	45	48	59	49	61	40	42	48	67	85	65	55	84	60	61
55	62	50	70	54	61	48	37	47	51	63	52	64	44	44	51	68	91	85	70	87	67	67
54	70	57	76	64	67	61	49	55	55	68	57	68	51	49	54	73	95	99	85	95	78	78
53	89	67	87	76	79	69	59	64	69	74	68	75	66	59	61	82	113	113	104	105	89	86
52	97	94	110	90	86	74	73	75	87		79	87	76	72	65	92	125	124	109	114	97	93
51	130	127	153	113	105	100	100	103	96				114	110	85	110	136	140	130	126	116	100
50	153	162	175	149	132	130	117	140						136	145	130	139	154	180	166	154	125
49	182	185	195	175	152	184	175										185	180	200	212	220	190
48	212				205	200												202	216			

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 211 Date: 8-10-55

Time →	1420	1425	1425	1430	1440	1450	1455	1500	1506	1510	1515	1525	1530	1533	1537	1540	1543	1546	1546			
72°																						
71																						
70																						
69																						
68																						
67			0																			
66			4																			
65	0	655 21	7	65.5 10	0							65.2 7	65.2 2	652 3	0	0	0-36	65.8 9	65.1 11			
64	7	32	10	29	15				0		64.2 7	12	21	15	24	24	47	11	22			
63	25	44	25	36	24	63.8 15	63.8 16	0	10	63.3 10	25	21	33	27	38	28	48	12	23			
62	30	48	28	37	29	19	25	18	30	28	38	35	42	35	44	32	50	13	25			
61	35	50	29	38	33	33	34	43	38	33	45	43	46	38	48	34	51	14	26			
60	37	52	30	39	35	41	38	45	39	35	46	46	48	43	51	38	52	14	27			
59	42	54	33	40	40	48	40	49	44	38	47	49	55	46	53	49	53	15	28			
58	45	63	40	42	47	50	43	50	46	42	48	53	59	52	55	55	54	16	29			
57	49	72	54	55	55	53	47	52	51	44	49	55	62	57	59	59	55	23	32			
56	58	78	64	60	58	54	53	54	56	46	52	66	74	63	63	61	56	28	35			
55	62	85	72	68	62	57	55	58	65	48	58	77	77	66	68	63	58					
54	70	92	80	72	65	60	58	63	70	66	70	87	79	70	72	66						
53	84	97	88	81	68	65	59	66	77	95	93	90	83	74	74	72						
52	89	105	97	87	75	79	64	78	115	119	106	108	90	83	82							
51	102	112	104	90	82	100	75	96	123	139	120	118	100	100								
50	119	128	120	112	140	127	92	127	135	153	138	138	117	120								
49	197	180	180	160	180	165	140	175	160	172		168	146									
48				215		215	215	210	210	217												

TEMPERATURE INVERSIONS

Cruise 211 Date: 8-10-55

Time:	0945	0950		1020		1025		1425D	
Temp.	Depth	Temp.	Depth	Temp.	Depth	Temp.	Depth	Temp.	Depth
63.1	Surf.	63.5	Surf.	63.5	Surf.	64.5	Surf.	67	Surf.
64	8	63	3	63	3	64	7	66	4
64	11	63	15	62	4	63	7	65	7
63	24	64	22	61	5	62	7	64	10
		64	29	60	5	61	7	65	13
		63	32	59	8	60	7	65	15
				60	11	59	7	64	17
				61	12	60	9		
				62	16	61	10		
				62	20	62	11		
				61	23	63	12		
				60	24	62	13		
				59	26	61	15		
						60	16		
						59	17		

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 211 Date: 8-11-55

Location: See corresponding Hydrographic Stations.

Cruise Description: A series of snapper bottom sediment samples was obtained for bacteriological analysis. Water samples, water temperature profiles, plankton hauls, and water transparency readings were made.

Station No.	*3329-D	*3329-U	*3330-D	*3330-U	3331	3332	3333	3334	3335	3336	3337-D	3337-U	3338	3339	3340	3341	3342	3343	3344	3345	*3346	3347
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65								65.2 10	65.1 21	65.3 13			0									
64					0	0- 12	64.7 25	16	36	19	64.3 7	64.3 2	3	64.2 10					64.1 3	64.4 6		0
63	63.5 2	63.5 15	0	0	13	25	29	18	37	22	12	5	34	26	63.7 29	63.5 7	63.4 13	63.5 15	29	8	63.5 30	27
62	17	27	20	13	22	27	32	20	38	28	13	6	37	34	33	23	20	19	38	12	34	32
61	17	28	23	21	27	42	39	26	39	36	15	7	41	38	35	28	29	27	40	22	37	41
60	24	28	43	40	28	45	44	42	40	39	18	16	45	41	37	35	41	34	42	40	43	44
59	24	29	48	45	30	46	48	54		44	28	33	47	47	39	39	51	38	43	43	46	47
58	29	32	50	47	32	48	52	60		48	37	42	52	51	43	54	54	40	45	45	48	52
57	31	33	52	48	37	50	55	68		52	44	51	55	58	54	57	57	42	49	55	54	55
56	43	37	55	50	40	63	61	75		55	52	58	60	65	56	58	63	44	53	62	66	58
55	52	40	62	56	45	78	66	80		69	60	69	64	68	60	60	76	50	60	74	73	63
54	54	50	70	64	49	81	98	85			90	95	67	69	67	71	94	52	85	88	74	65
53	61	57	75	72	56	85	112				98	103	69	72	74	75	100	54	96	97	82	82
52	66	62	87	85	70	94	119				101	107	98	83	78	82	104	79	101	103	92	95
51	80	80	92	92	85	145	125				105		136	85	84	86	109	128	109	108	102	111
50	124	124	130	130	102	158							142	120	100	114	137	150	140	137	125	122
49	180	180	168	168	165									155	138	136	190	172	175	155	140	160
48															160	195			215	180	180	

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 211 Date: 8-11-55

Station No.	3348	3349	3350	3351	3352	3353	3354-D	3354-U
72°								
71								
70								
69								
68								
67						0		
66						4		
65	0		65.1 2			6		
64	21	64.3 20	11		64.5 3	7	64.5 14	
63	31	30	15	63.5 4	7	12	20	
62	40	33	17	9	16	17	23	62.5 5
61	43	36	31	11	21	22	24	8
60	44	38	34	21	27	24	31	19
59	47	40	36	29	42	25	36	25
58	48	44	37	32	44	26	38	27
57	51	50	39	44	46	29	40	31
56	55	55	43	47	52	33	44	36
55	58	61	48	51	63	40	49	38
54	66	70	60	54	70	74	55	45
53	77	78	83	56	76	81	67	60
52	91		97	71	91	87	105	105
51	127		105	95	100	105	131	131
50	137		135	130	130	138	160	160
49				164	161	171	192	192
48						187		

TEMPERATURE INVERSIONS

Cruise 211 Date: 8-11-55

Station: 3329D		3329U		3330D		3330U		3346	
Temp.	Depth	Temp.	Depth	Temp.	Depth	Temp.	Depth	Temp.	Depth
63.5	Surf.	63.5	Surf.	63	Surf.	63	Surf.	63.5	Surf.
63	2	63	15	63	10	63	11	64	20
63	4	62	22	63	19	62	13	63	30
63	9	62	24	62	20	61	21		
63	11	62	27	61	23	60	40		
62	17	61	28	60	43	59	45		
61	17	60	28			58	47		
60	18	59	29						
61	22	58	29						
61	23	58	32						
60	24	57	33						
59	24	56	37						
58	24	55	40						
57	25								
57	26								
58	29								
57	31								

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 212 Date: 8-16-55

Location: See corresponding Hydrographic stations.

Cruise Description: Thirty Hydrographic stations were occupied. Studies made at each station included: samples of bottom sediment, Plankton Hauls, Water transparency and color, dissolved oxygen and phosphate content of the water, and Bathythermograph traces.

Station No. →	3355	3356	3357	3358	3359	3360	3361	3362	3363	3364	3365
72°											
71											
70											
69											
68				68.9 13	68.5 7					68.0 16	
67				22	8	67.3 5				20	
66				24	11	8	66.1 3	66.7 17		23	0
65	65.8 8	65.5 16	0	30	25	21	26	23	65.7 13	24	18
64	9	23	40	38	33	34	36	30	18	27	34
63	10	32	48	43	43	37	41	39	24	31	38
62	20	36	50	48	48	38	43	44	27	34	40
61	25	38	53	53	50	40	44	45	28	37	42
60	30	39	54	60	57	45	46	46	32	38	43
59	33	59	56	67	60	52	48	48	34	39	44
58	35	43	58	70	63	61	52	52	36	40	45
57	38	46	60	73	77	70	53	53	38	42	47
56	40	49	63	80	84	77	62	59	40	45	49
55	42	62	67	103	90	80	67	63	47	48	52
54	48	64	76	111	96	95	75	66	60	50	56
53	55	68	97	118	103	121	84	73	65	54	64
52	62	80	115	141	130	136	99	77	70	63	68
51	85	92	143	191	173	160	128	94	88	71	79
50	141	112	152	200	195	175	143	131	117		91
49	170	140	197			190	165	158	164		122
48	180	180					200	205	204		

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 212 Date: 8-17-55

Location: See corresponding Hydrographic stations.
Cruise Description: Thirty Hydrographic Stations were occupied. Studies made at each station included: samples of bottom sediment, plankton hauls, water transparency and color, dissolved oxygen and phosphate content of the water, and Bathythermograph traces.

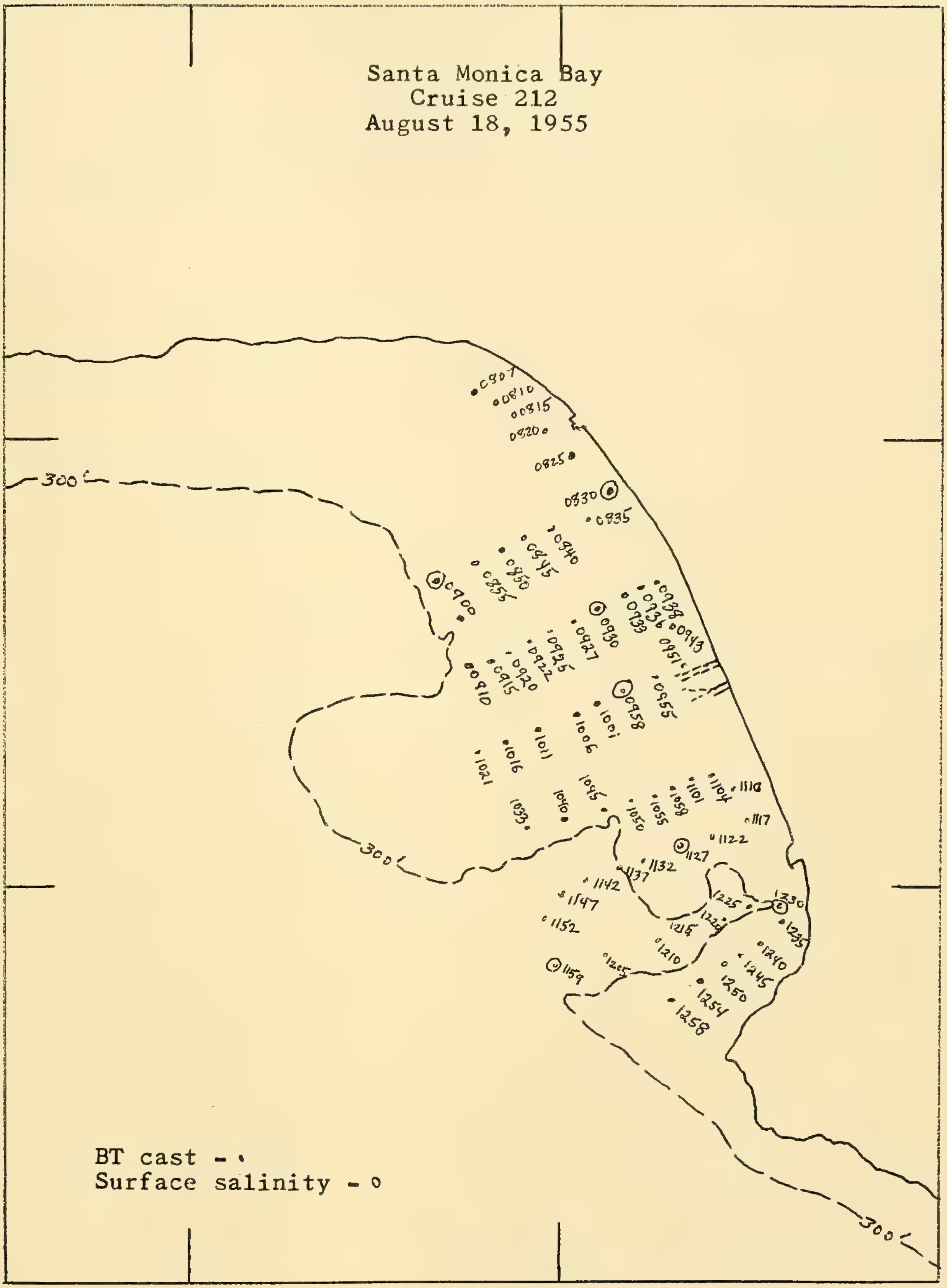
Station No. →	3366	3367	*3368	3369	3370	3371	3372	3373	3374	3375	3376	3377	3378	3379	3380	3381	3382	3383	3384
72°																			
71																			
70																			
69																			
68																			
67							67.3 3		0				67.2 3						
66						66.4 2	17	66.6 40	7	0			15						
65					65.2 3	12	20	43	36	15	65.5 5	65.5 15	32	0- 17				65.5 14	
64		64.5 10		64.3 14	20	28	22	45	42	30	22	25	42	25	0- 16	0- 14	64.2 10	19	
63	63.9 24	28	63.5 48	21	22	29	25	48	43	38	32	32	45	32	22	35	18	24	0- 15
62	29	34	54	27	24	30	29	50	45	43	36	34	47	34	30	36	25	27	20
61	33	37	57	30	25	31	31	52	47	46	42	35	50	37	34	37	28	28	22
60	37	38	58	33	28	33	33	53	48	47	46	37	52	38	35	38	30	29	23
59	38	39	59	35	29	34	34	59	51	48	47	41	53	39	37	39	33	30	24
58	40	43	60	47	34	35	37	63	53	52	49	47	54	40	38	39	35	32	25
57	44	45	61	58	38	37	40	69	57	64	52	54	57	42	40	40	37	34	29
56	62	52	62	61	52	44	45	77	63	68	54	57	64	49	42	45	44	36	33
55	63	53	63	64	63	48	52	84	67	74	56	60	74	57	47	49	47	42	44
54	73	56	65	66	87	53	71	88	77	77	59	64	78	75	56	50		50	48
53	78	58		77	93	80	82	96	84	79	67	82	87	88	64	52		65	54
52	86	65		83	104	90	100	108	98	85	73	87	92	96	73			83	69
51	98			93	110	96	125	120	109	104	80	98	97	112	95			108	84
50	116			125	117	111	143	133	145	124	100	110	119	121	123			135	110
49				158	171	175	155	165	150	155	120	145	185	142				164	
48					200		215	220	210	215	150	190		200				220	

TEMPERATURE INVERSIONS

Cruise 212 Date: 8-17-55

Station: 3368

Temp.	Depth
63.5	Surf.
64	7′
64	31
63	48



Santa Monica Bay
Cruise 212
August 18, 1955

BT cast - •
Surface salinity - o

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 212 Date: 8-18-55

Cruise Description: Bathythermograph traverses were made, normal to the coast, over the Santa Monica Bay area.

Ave. surface temp. 65.5.

Time →	0807	0810	0815	0820	0825	0830	0835	0840	0845	0850	0855	0900	0905	0910	0915	0920	0922	0925	0927	0930	0933	0936
72°																						
71																						
70																						
69																						
68																						
67				67.2 3	67.2 4																	
66			66.7 4	5	5	66.9 7																
65			5	5	6	8																
64	64.6 9	64.9 10	9	11	12	12	64.9 4						64.2 2	64.2 2								
63	17	15	16	12	15	25	18	63.5 6	63.2 5		63.2 7	63.5 27	29	29	63.8 30	63.8 3	63.2 2	63.1 1	63.5 2	63.7 6	63.7 7	63.5 3
62	20	17	17	15	20	27	19	7	6	62.8 10	24	30	34	33	34	26	12	12	5	9	13	13
61	22	19	20	16	23	28	20	8	7	28	26	32	36	36	38	38	24	44	8	13	14	16
60	23	23	22	17	25	29	21	9	8	34	27	34	37	37	39	41	28	47	10	15	15	18
59	27	29	27	19	27	30	22	10	9	37	28	35	42	40	41	42	43	51	13	16	17	25
58	28	32	28	23	28	31	23	13	11	40	31	37	45	45	45	44	49	53	14	17	18	32
57	36	33	30	24	29	32	24	15	12	47	42	38	47	47	58	69	54	55	15	19	21	34
56	48	38	33	27	30	34	29	20	13	59	48	42	53	59	62	74	57	56	17	29	25	40
55	50	45	38	33	34	36	38	27	14	61	65	59	67	73	67	78	59	57	19	41	30	53
54	52	49	44		70	40	48	47	20	62	79	63	83	87	82	80	60	66	45	48	33	55
53			49				54	50	30	78	101	78	105	100	98	84	85	85	49	52	53	58
52							61	60	68	90	115	92	116	118	129	111	95	93	60	78	67	62
51								71	77	123	133	133	138	140	151	124	112	112	91	87	74	72
50								93	100	134	141	144	147	163	160	143	135	135	117	106		
49									122	157	167	185	164	195	184	160	151	150				
48											190	220	205		200							117

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 212

Date: 8-18-55

Time →	0938	0943	0951	0951	0955	0955	0958	1001	1006	1011	1016	1021	1033	1040	1045	1050	1055	1058	1101	1104	1110	1117
72°																						
71																						71.4 6
70																						6
69																						7
68																				68.2 4	68.2 3	8
67		0	67.0 3																	5	4	11
66	66.4 4	4	4																	5	4	14
65	7	5	5									65.2 3	0	65.1 3				0	0	6	5	15
64	10	8	6			64.3 1			0	64.2 3	64.9 5	20	30	7		64.4 3	64.5 3	4	3	6/16	15	19
63	37	29	36	63.2 1	63.9 27	4	63.5 5	63.3 2	9	24	27	26	37	34	63.5 4	10	6	6	7	27	21	21
62	41	38	37	37	37	31	29	8	28	31	30	29	42	43	8	18	12	14	11	37	24	23
61	42	39	38	38	41	34	42	22	31	34	32	32	45	46	35	21	22	21	13	40	27	25
60	43	40	38	38	45	39	45	29	34	36	34	33	48	48	61	24	23	23	22	41	28	27
59	44	42	39	39	49	44	47	34	41	37	35	36	49	50	65	27	25	25	24	42	35	28
58	44	43	40	40	53	45	50	36	44	43	37	37	52	53	67	28	32	27	26	43	40	32
57	45	44	42	42	54	47	55	37	45	55	43	48	63	60	75	37	33	30	34	44	43	33
56	46	45			65	57	58	50	46	58	53	54	72	72	80	45	36	32	47	44	47	42
55	48	47			70	63	65	60	57	60	63	58	85	85	85	48	39	38	52	47	50	45
54		51			73	66	69	70	73	80	66	74	89	93	103	52	46	50	55	51	53	48
53					74	67	88	75	84	91	96	105	95	99	107	57	48	59	58		57	49
52					75	71	92	84	88	97	104	111	98	103	111	65	66	68	67			53
51					80	80	94	101	104	108	113	125	108	109	113	88	83	79	78			
50							110	120	127	127	127	137	125	121	120	114	87	115				
49								135	160	150	156	156	155	175	135	140	140					
48										192		195	211	210	160	199						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 212 Date: 8-18-55

Time →	1122-D.	1122-U.	1127	1132	1139	1142	1147	1152	1159	1205	1210	1215	1220	1225	1235	1240	1245	1250	1254-D	1254-U	1258-D	1258-U
72°																						
71															71.3 7							
70															8	70.5 4						
69															8	5	0-4					
68														0-4	9	6	5	0				
67	67.3 10	67.2 6											67.5 5	6	12	7	6	5	0-4	0		
66	11	7	66.4 5								0	66.0 4	5	7	13	8	7	10	7	5	0-6	66.8 5
65	15	8	8	65.6 3	0-4	0-4	65.2 4	65.5 3	65.3 4	65.5 5	4	15	7	9	13	9	7	14	9	9	6	10
64	18	10	24	9	7	5	9	31	7	9	10	28	20	10	13	10	11	17	15	24	19	22
63	26	23	26	20	24	18	46	41	36	18	15	30	26	13	14	13	12	19	18	26	20	27
62	27	23	28	22	39	40	48	44	38	33	21	31	30	15	16	14	14	22	21	27	21	29
61	28	23	30	35	40	42	53	45	42	38	29	33	34	18	17	15	17	23	22	28	22	30
60	30	24	37	36	41	44	54	46	43	39	34	37	36	19	19	17	18	24	23	29	24	32
59	30	25	38	37	42	47	55	47	45	40	36	40	37	21	21	18	20	25	27	32	28	33
58	31	27	40	41	43	48	58	49	46	42	37	42	38	24	22	19	22	27	32	34	28	34
57	32	28	41	50	57	54	61	52	58	50	43	45	41	30	23	20	25	30	36	36	29	35
56	33	29	42	52	61	70	75	70	64	52	45	50	43	33	24	21	27	33	38	38	30	36
55	43	39	43	53	64	74	80	74	69	54	48	52	45	38	27	25	29	41	45	45	33	40
54	45	40	46	55	68	78	85	80	73	58	52	55	49	44	34	29	34	51	50	50	48	48
53	49	44	50	59	70	87	93	92	77	69	67	68	58	48	45	44	45	58	62	62	57	57
52	52	48	54	70	76	98	97	100	90	80	83	75	63	51	52	60	68	82	90	90	63	63
51	62	57	62	83	97	110	108	113	102	106	95	91	78	62	75		113	110	120	120	95	95
50	67	67	76	101	120	125	123	138	116	127	130	107	96	78	125			135	148	148	140	140
49	105	105	100	132	156	158	166	169	168	157	156		145	110	150							
48				165	195	185	212	212		212	195		205	175								

TEMPERATURE INVERSIONS

Cruise 212 Date: 8-18-55

Time: 0951D		0951U		0955D		0955U		1122D	
Temp.	Depth	Temp.	Depth	Temp.	Depth	Temp.	Depth	Temp.	Depth
67	Surf.	63.2	Surf.	63.9	Surf.	64.3	Surf.	67.3	Surf.
64	6′	63	1′	64	1′	63	4′	68	1′
64	12	63	6	65	2	63	5	69	2
64	18-27	64	7	65	12	63	9	70	3
63	36	65	8	64	13			69	5
		64	14	63	27			68	8
								67	10

Time: 1254U		1258D	
Temp.	Depth	Temp.	Depth
67	Surf.	66	Surf.
66	5′	65	6′
65	9	64	7
64	11	63	8
63	12	62	9
62	13	61	10
61	14	60	11
61	17	61	12
62	18	62	12
63	21	63	13
64	24	64	13
63	26	65	13
62	27	66	14
61	28	67	15
		66	16
		65	17
		64	19
		63	20

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 214 Date: 8-23-55

Cruise Description: Hayward Grab samples were taken in the area between Santa Monica and Redondo Canyons. Bathytherms, Plankton Hauls, and Surface Water samples were obtained and water transparency and color were noted.

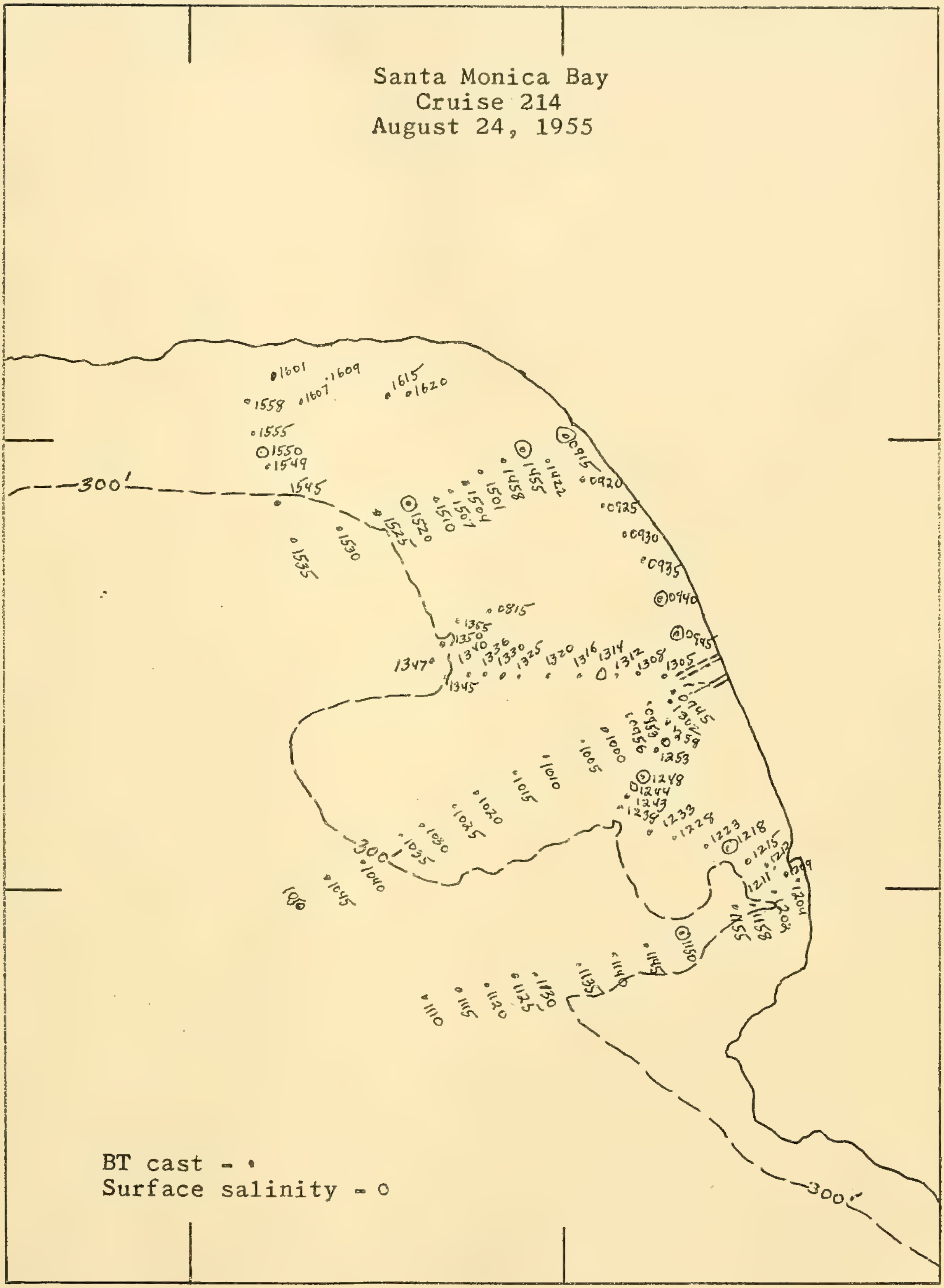
Time →	1155	1315	1330	1349	1406	1425	*1445 O.	1445 U.	1506	1534	1555		1024	1107	1250		2040	2140	2200	2240	2320	2400
72°																						
71																						
70																						
69																						
68														0								
67														4								
66														18								
65														40								
64		64.3 10					0	0			64.5 14			55								
63		12			0	63.5 10	9	9	63.5 5	62.5	16		0- 30	65								
62	62.4 15	20			15	14	10	25	16	7	22		35	70	62.8 15		0- 15		0- 15	61.2 15	61.5 16	61.5 16
61	30	40			27	35	24	35	28	13	30		40	75	50		0- 15		0- 15	61.2 15	61.5 16	61.5 16
60	45	55	60.4 22	60.5 45	48	67	27	36	33	20	36		46	80	70		25	60.8 22	23	24	22	21
59	60	87	35	80	54	81	44	37	46	25	42		90	83	80		31	25	27	28	27	24
58	65	90	72	84	73	92	50	50	83	30	52		95	90	83		37	30	33	34	35	27
57	70	92	82	100	78	104	53	53	97	35	57		105	126	86		40	33	37	37	41	35
56	75	118	105	105	90	112	77	77	98	65	65		137	148	104		41	35	40	45	54	51
55	85	125	112	115	98	117	86	86	100	80	76		165	177	110		68	56	54	62	71	63
54	120	132	120	118	116	120	100	100	132	89	90		180	180	138		80	71	75	71	98	112
53	141	148	155	140	135	129	110	110	136	114			200	200	155		90	77	91	87	108	124
52	165	170	175	130	165	172	155	155	160				240	233	195		106	88	104	112	120	137
51	225	200	205	214					195				275	277	220		125	110	119	130	140	159
50	290	272											375	344	275		142	132	155	170	180	186
49	415												650	660	400		200	198	205	208	207	211
48																						

TEMPERATURE INVERSIONS

Cruise 214 Date: 8-23-55

Time: 1445

Temp.	Depth
64	Surf.
63	9′
62	10
61	11
60	12
60	14
61	15
62	16
63	19
63	24
62	25
61	35
60	36
59	37



Santa Monica Bay
Cruise 214
August 24, 1955

BT cast - •
Surface salinity - o

THIS PAGE VOIDED

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 214 Date: 8-24-55

Cruise Description: On this bathythermograph run, fathometer traces were made while the ship followed the Bt traverse. Surface water samples and temperature readings were taken at frequent intervals and several snapper sediment samples were obtained.

Time →	0815	0915	0920	0925	0930	0935	*0940	*0945	*0949	0953	0956	1000	1005	1010	1015	1020	1025	1030	1035	1040	1045	1050
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64										0												64.5 6
63		0		63.4 8	63.2 5	0				6	63.5 5										63.5 10	25
62		4	62.7 6	13	8	6			0-5	9	6	62.3 5									19	39
61	61.4 5	5	7	17	13	13	61.5 10		15	11	7	7				0			61.3 6	61.4 40	30	44
60	10	22	16	22	40	19	19	60.5 18	20	13	9	9	0	60.5	60.5 7	5	60.5 5	60.5 9	30	44	34	47
59	13	27	29	26	47	48	39	43	45	16	11	11	30	9	9	6	26	39	34	50	37	51
58	17	30	33	39	52	57	52	52	59	19	18	16	42	30	16	29	43	61	36	54	43	56
57	21	39	39	45	56	59	54	55	61	39	21	21	44	35	41	31	57	69	39	60	48	65
56	34			58	64	61	58	66	63	62	44	38	50	44	58	47	75	79	43	64	57	76
55	50									66	48	43	60	48	61	50	82	97	56	72		84
54	73									75	70	59	68	55	66	52	84	102	62	92		105
53	98									82	94	78	84	65	72	57	85	120	120	120		128
52	103									91	117	110	98	85	89	98	125	151	137	134		158
51	110											142	134	112	113	120	137	167	162	170		192
50	142												180	162	158	157	162	185	182	190		
49																	210	212	213	215		
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 214 Date: 8-24-55

Cruise Description: On this Bathythermograph run, fathometer traces were made while the ship followed the BT traverse. Surface water samples and temperature readings were taken at frequent intervals and several snapper sediment samples were obtained.

Time →	1100	1110	1115	1120	1125	1130	1135	1140	1145	1150	1155	1158	1202	1204	1209	1211	1212	1215	1218	1223	1228	1233
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65	0-4																					
64	12	0										64·2 3	0	0	0	0	64·2 4	64·5 5	64·5 5	64·4 5		
63	19	8								0	63.6 5	8	6	4	4	4	7	7	8	10		
62	28	12	62·9 16	0	62·9 7			0		10	12	10	9	5	5	6	8	10	18	14	62·8 10	62·2 3
61	45	43	40	18	26	61·3 20	61·4 4	6	61·5 6	14	16	14	11	7	7	8	13	19	27	31	27	20
60	52	45	45	23	28	35	15	18	16	16	22	18	15	9	9	11	20	21	32	34	28	25
59	54	48	48	27	39	41	25	27	19	17	23	20	17	13	13	16	28	25	35	37	32	30
58	57	57	54	33	47	49	36	30	22	21	28	26	23	20	18	25	32	28	42	40	35	39
57	61	60	57	43	52	55	52	37	28	29	34	28	25	28	21	35	35	35	48	44	43	52
56	65	72	74	52	60	58	61	57	36	41	38	32	35	34	28	45	38	40	65	57	57	61
55	82	82	86	73	68	63	65	60	44	45	43	44	48	45	41	46	48	49	69	62	61	64
54	87	98	103	98	85	72	87	85	75	52	48	50	55	57	50	49	56	52	75	67	68	74
53	111	124	125	115	95	98	112	110	105	100	82	82	62	75		60	62	60	90	76	78	86
52	140	152	151	156	144	117	126	125	122	118	116	139		98			90	87	108	92	98	123
51	195	194	185	190	184	160	165	150	154	180	165	178		144			135	144	165	137	146	148
50	211	210	206	208	210	200	212	210	216					205				210	217	185	210	215
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 214 Date: 8-24-55

Time →	1238	1243	1248	1253	1258	*1302	1305	1308	1312	1316	1320	1325	1330	1336	1340	1345	1350	1355	1408	1412	1415	1418
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																		0				65.5 2
64			0	64.5 8			0	0		0								2	0			4
63		63.2 7	4	10	63.2 8		3	5	0	4		0						3	4	63.4 3	63.4 2	5
62	62.4 3	9	5	12	10		4	8	4	5	0	3	62.3 2	62.4 2	0	62.1 3	62.6 5	6	9	5	14	7
61	8	16	6	13	11		6	9	10	8	4	5	5	6	5	4	8	7	18	10	30	9
60	25	34	9	14	13	60.2 1	10	12	18	11	13	10	12	17	6	5	10	8	32	29	36	11
59	38	39	19	17	16	15	17	17	22	25	43	35	28	21	7	6	18	11	34	38	47	20
58	45	41	27	20	22	17	21	19	27	36	80	54	39	24	15	10	23	13	37	60	52	29
57	54	49	30	27	32	25	25	25	29	42	83	65	55	45	35	41	34	15	48	66	54	32
56	63	61	43	43	34	33	33	37	42	48	88	80	67	58	60	66	57	18	55	79	60	37
55	66	65	51	45	37	35	43	44	46	58	94	93	84	64	74	73	66	51	63	81	63	43
54	83	79	60	57	48	39	46	60	55	67	97	98	92	75	96	92	82	64	70	86	65	59
53	94	94	69	60	80		60	72	65	75	103	103	97	82	106	109	90	78	100	95	74	
52	125	140	84	74				97	90	88	115	119	105	127	121	120	100	102	115	106		
51	165	180	121					110	129	125	136	132	111	140	137	135	125	116	128			
50	200	211	162								165	181	182		150	143	172	208	161			
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 214 Date: 8-24-55

Time →	1422	1455	1458	1501	1504	1507	1510	1515	1520	1525	1530	1535	1545	1549	1555	1558	1601	1607	1609	1615	1620	
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64	64·5 3		64·8 4	64·5 2											0							
63	6	63.4 4	5	4		0									5			0				
62	11	5	6	5	62·5 4	2	62·5 5	62·2 2	0	62·7 3			0	62·9 4	6	62·8 5	62·4 7	6	0	62·5 5	62·5 5	
61	13	6	25	9	5	4	7	8	5	4	61·8 5	61·5 4	5	8	7	5	9	7	6	5	6	
60	15	8	31	21	9	8	10	10	8	5	7	8	8	9	7	6	10	8	9	6	6	
59	25	12	38	42	30	16	15	17	9	9	8	13	9	10	9	7	13	9	10	7	7	
58	35	25	47	54	49	23	22	21	13	49	11	25	14	14	20	10	21	12	11	14	9	
57	38	34	49	61	53	45	26	29	28	58	35	45	23	19	27	20	31	24	18	25	20	
56	40	47	51	64	82	55	29	31	37	78	52	58	37	30	32	28	36	28	20	33	52	
55			60	68	85	65	51	44	59	92	62	65	51	43	40	34	46	30	27	70	63	
54			69	81	88	78	97	77	78	97	66	75	83	49	58	47	63	40	36	83	68	
53				88	106	87		80	88	115	74	90	103	83	69	61	85	93	84	92		
52					120	125		90	93	129	103	130	132	116	93	105	115	121				
51						145		160	128	151	172	143	165	158	105	140						
50									170			208		200								
49																						
48																						

TEMPERATURE INVERSIONS

Cruise 214

Date: 8-24-55

Time: 0945		0949		1302	
Temp.	Depth	Temp.	Depth	Temp.	Depth
60.5	Surf.	62	Surf.	60.2	Surf.
61	4′	63	6′	60	1′
62	5	63	9	59	4
62	8	62	13	58	6
61	10	61	15	59	9
				60	13
				59	15

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 214 Date: 8-25-55

Cruise Description: Bathythermograph traces and surface water samples and temperatures were obtained along a traverse. Two deep Hayward Grab Samples were taken near the edge of the shelf and two Bacteria Samples were collected.

Time →	0705	0715	0730	0745	0800	0815	0830	0845	0900													
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60	60·5 8	60·5 9	60·5 7	60·5 10	0	60·5 7	60·5 4	60·3 4	60.6 5													
59	18	18	12	16	10	11	6	5	7													
58	27	27	23	23	16	14	11	8	9													
57	35	36	35	36	36	37	35	30	30													
56	38	39	38	39	40	40	41	40	39													
55	42	44	44	45	45	45	45	45	45													
54																						
53																						
52																						
51																						
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 216 Date: 8-30,31-55

Cruise Description: Bottom sediments were obtained for the purpose of bacterial study. Current measurements at the surface and at depth, and Bathythermograph traces were made. Ave. surface temp. 63.0.

Time →	1837	1953	2114	2149	2223	2256	2330	0005	0043	0115	0147	0205	0228	0305	0345	0420	0455	0528	0600	0631	0706	0801
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65	65.2 8																					
64	10	64.5 10	64.8 7	64.4 8	64.5 8	0																
63	11	12	8	10	9	7	63.3 3		0													
62	12	15	9	11	12	10	7	62.9 4	3	62.8 4	62.5 4	62.7 4	62.9 4	62.9 3	62.8 5	62.4 7	62.7 13	62.5 8	62.6 7	62.8 6	62.8 8	62.8 7
61	17	22	15	16	16	14	13	10	7	7	9	9	9	5	10	11	18	12	9	8	14	8
60	20	24	22	19	18	18	17	17	15	18	21	16	15	12	14	17	22	19	12	11	19	9
59	25	28	25	22	23	24	23	22	20	24	25	19	19	16	16	19	23	21	19	18	20	12
58	35	34	29	28	30	30	28	25	26	29	31	25	23	19	20	24	30	29	23	23	28	18
57	40	40	36	33	33	34	32	29	30	33	34	28	27	25	24	28	36	36	28	31	39	31
56	74	43	38	35	36	38	36	33	33	37	38	33	30	30	30	32	40	41	35	38	53	42
55	89	57	49	45	47	48	48	46	43	46	50	47	45	45	46	45	54	52	46	60	70	64
54	102	67	55	51	54	55	56	59	51	56	62	60	59	57	62	61	71	72	74	79	86	77
53	114	108	94	90	93	92	91	90	86	85	89	85	79	80	84	83	92	93	95	100	105	95
52	133	123	111	110	110	106	105	103	108	100	105	104	95	97	103	105	109	111	121	120	127	130
51	156	147	146	155	151	140	136	130	135	130	137	144	136	128	146	145	150	152	156	158	161	160
50		191	186	190	190	192	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 216

Date: 8-30-31-55

Time →	0900	0933	1004	1036	1106	1135	1205	1212	1244	1313												
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63				632 2				63.3 4-9	63.9 9	63.5 10												
62	62.5 3			3	62.2 2	0	62.5 4	10	11	11												
61	9	61.8 16	61.9 5	8	9	8	8	12	13	14												
60	12	17	12	13	11	10	10	15	16	17												
59	14	18	15	15	14	12	13	19	19	19												
58	21	21	20	20	21	17	17	22	22	23												
57	30	27	25	26	26	22	30	34	32	29												
56	50	39	41	40	39	37	39	40	39	34												
55	68	59	55	54	51	49	51	55	56	48												
54	75	70	66	63	62	57	59	61	63	55												
53	112	100	98	90	89	80	81	85	85	82												
52	143	138	136	128	120	100	110	109	100	105												
51	170	165	162	166	163	135	141	144	138	143												
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 217 Date: 9-7-55

Location: See corresponding Hydrographic Stations.

Cruise Description: A series of bottom sediment samples were obtained in areas of changing sediment type. Three detailed hydrographic stations were also occupied. At all stations, Plankton transparency and BT casts were made. Fathometer profiles were recorded.

Time →	2010	2055	2125	2157	2230
72°					
71					
70					
69					
68					
67					
66					
65			65.5 11		
64	64.2 2	64.5 6	18	64.5 10	64.5 10
63	5	10	22	13	18
62	7	12	28	22	24
61	13	15	29	25	28
60	20	18	30	26	30
59	23	20	32	27	33
58	25	22	34	32	43
57	29	24	37	35	44
56	53	35	45	40	47
55	55	53	55	60	
54					
53					
52					
51					
50					
49					
48					

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 217 Date:9-7-55

Location: See corresponding Hydrographic Stations.

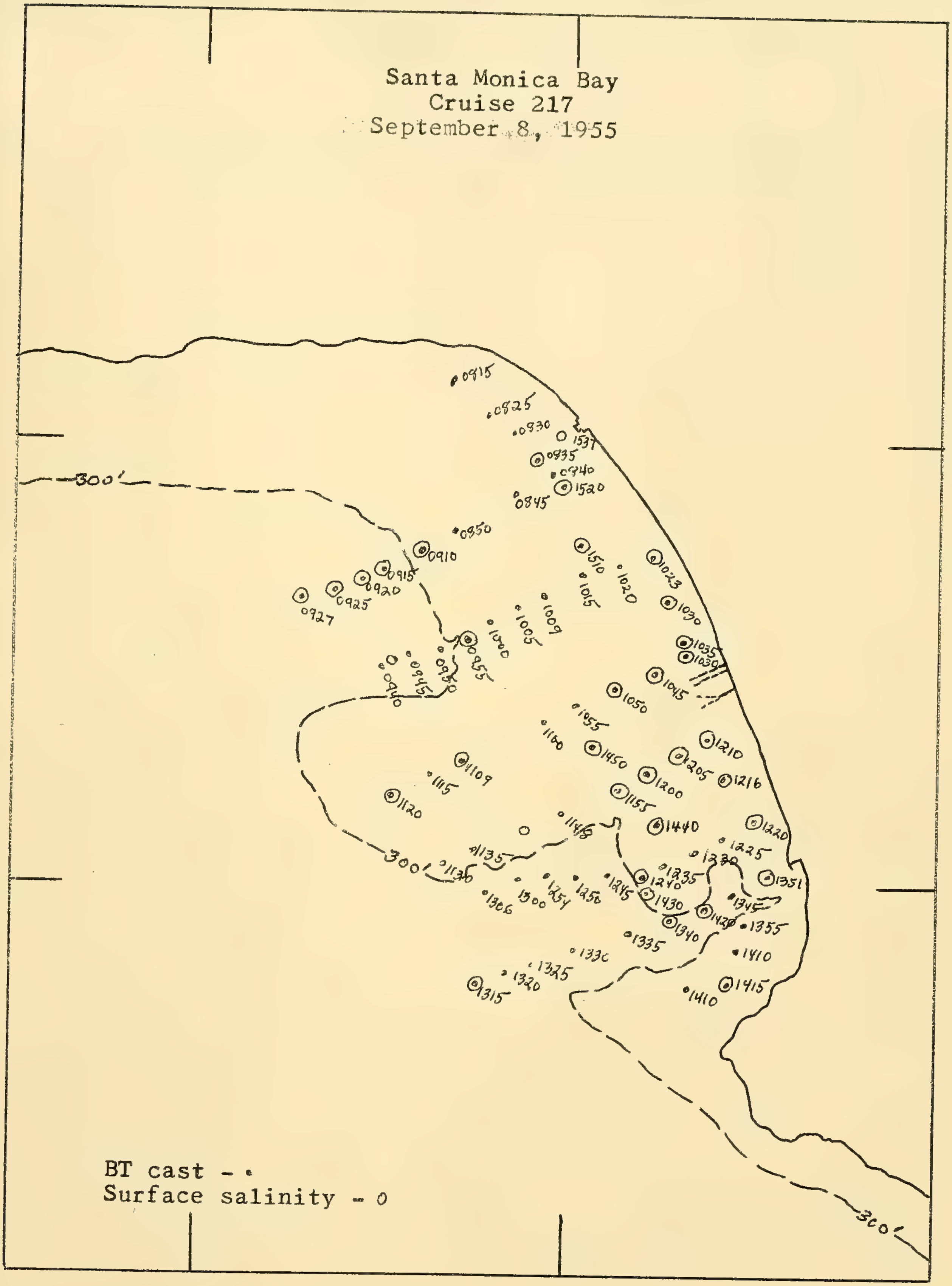
Cruise Description: A series of bottom sediment samples were obtained in areas of changing sediment type. Three detailed hydrographic stations were also occupied. At all stations, Plankton transparency and BT casts were made. Fathometer profiles were recorded.

Station No.	3416 D	3416 U	3417	3418	3419	3420	3421	3422	*3423	3424	*3425	3421 (deep)										
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65			0																			
64	0- 15	0	10							0												
63	17	38	21	63.3 8						10		0										
62	20	39	24	23	0					20		20										
61	27	41	28	33	13			0- 11		27	0	35										
60	30	42	30	40	20			12	0	33	45	40										
59	33	43	34	46	33	59.5 8	59.7 15	14	17	35	47	41										
58	36	46	46	50	36	15	18	17	17	49	48	45										
57	44	50	53	54	38	23	23	25	17	61	49	50										
56	50	57	72	58	40	29	29	29	30	64	51	60										
55	62	62	83	66	42	31	34	33	46	65	57	110										
54	87	87	132	73	63	34	53	40	48	67	68	140										
53	105	105	170	90	70	60	66	48	55	80	84	135										
52	135	135	225	143	109	79	105	80	68	95	114	240										
51	165	165	300	155	135	112	153	113	85	112		310										
50	216	216	360	178	165	151	185	153	148	134		350										
49				210		190		210	215			500										
48																						

TEMPERATURE INVERSIONS

Cruise 217 Date: 9-7-55

Station: 3416U		3423		3425	
Temp.	Depth	Temp.	Depth	Temp.	Depth
64	Surf.	60	Surf.	61	Surf.
63	4	61	7′	62	10′
62	5	61	14	62	13
62	8	60	16	61	17
63	11	59	17	60	20
64	13			60	36
64	35			60	45
63	38				



Santa Monica Bay
Cruise 217
September 8, 1955

BT cast - •
Surface salinity - o

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 217 Date: 9-8-55

Cruise Description: A Bathythermograph Traverse was run normal to the coast. Water samples were collected and 450 drift cards were released.

Time →	0815	0825	0830	0835	0840	0845	0850	0910	0915	0920	0925	0927	0935	0940	0945	0950	0955	1000	1005	1009	1015	1020
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64				64·2 6	64·3 8																	
63	0	63·9 6		10	10															0	0	0
62	29	8	62·8 8	15	15	62·5 7						0	0					0	0	5	10	3
61	34	15	12	20	17	18	61·5 4	61·2 10	61·5 8	61·9 10	61·8 4	5	11	61·2 2	0	0	61·5 5	10	7	10	22	23
60	37	17	23	24	23	25	25	18	10	15	5	6	14	8	7	8	9	24	16	25	28	27
59	38	18	27	30	25	28	30	30	17	19	6	7	15	15	8	16	35	35	34	38	41	28
58	42	22	30	33	26	29	37	42	32	25	8	8	17	17	11	39	41	45	39	42	45	30
57	45	26	33	34	28	31	43	53	41	32	9	9	21	23	15	44	47	52	42	45	49	36
56	48	30	35	38	31	35	51	63	46	40	27	16	25	25	21	52	62	55	47	50	60	42
55	52	34	38	50	44	44	60	72	60	45	32	28	33	27	36	57	67	58	50	58	66	49
54	55		69			60	65	83	66	55	38	43	54	39	65	63	71	67	58	65	74	70
53						85	90	94	94	80	42	48	58	51	75	72	75	84	66	85	90	
52							125	116	117	104	70	74	83	92	109	131	100	115	95	109		
51								140	140	125	105	120	122	111	136	155	125	142	127			
50								175	188	195	170	172	176	167	165	199	205	151				
49								198	222				212	215	215		220	175				
48																		185				

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 217 Date: 9-8-55

Time →	*1023	1030	1035	1038	1045	1050	1055	1100	1109	1115	1120	1130	1135	1148	1155	1200	1205	1210	1216	1220	1225	1230
72°																						
71																						
70																						
69																						
68																						
67																						
66															0			66.5 3	66.5 3		0	
65															4			6	5	0	3	65.5 3
64		0												64.5 3	7	64.3 3	64.3 3	10	6	5	8	7
63		5				0	63.7 4							5	10	7	15	13	10	10	23	15
62	0	6	62.5 5	62.5 10	62.5 5	5	7	62.5 5	62.4 5			62.5 4	0	8	15	25	30	20	19	13	31	30
61	30	7	6	12	10	10	10	10	10	61.3 2	61.4 5	7	8	22	28	30	32	29	28	16	32	33
60	35	24	13	17	47	16	18	17	13	9	15	12	13	40	34	36	35	43	40	18	33	34
59	36	40	25	22	58	33	32	32	21	10	18	17	21	43	40	44	36	44	42	28	35	36
58	37	45	29	28	67	37	41	44	35	18	19	23	27	49	57	47	37	47	43	42	36	38
57	43	52	39	29	72	47	44	48	50	46	20	43	40	52	63	48	38	48	44	50	45	42
56			46	33	74	52	51	57	62	67	24	50	47	56	68	52	55	49	47	53	55	48
55				52	78	58	62	58	64	74	55	60	52	67	69	53	72	53			63	53
54					83	68	69	64	71	78	62	63	66	75	72	75	80					82
53					101	97	90	85	87	100	87	85	92	90	86	101	97					144
52					112	122	115	110	110	115	119	120	113	103	127	128						
51						151	145	135	150	146	152	145	130	142	160							
50								178	172	180	198	180	168	196								
49											217		220									
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 217 Date: 9-8-55

Time →	1235	1240	1245	1250	1254	1300	1306	1315	1320	1325	1330	1335	1340	1345	1351	1355	1401	1405	1410	1420	1430	1440
72°																						
71															0							
70														0	5	0						
69													69.3 5	5	6	5	69.5 2				69.7 9	0
68			68.2 5										7	8	7	6	4	68.5 3	68.7 5	68.5 5	15	4
67	67.2 5	67.5 3	6								0	67.8 7	9	10	8	7	5	6	7	8	17	5
66	7	7	9	62.5 2							5	10	10	15	10	9	8	7	8	10	25	6
65	8	8	14	3			0	0		65.6 3	7	16	11	17	11	10	10	8	9	12	28	7
64	10	19	17	5	0		5	4	0	6	11	23	15	18	12	12	11	9	10	15	30	8
63	16	24	20	10	3	63.5 5	6	6	6	9	25	25	20	19	14	15	12	10	11	17	32	10
62	30	26	24	30	5	6	8	9	8	12	30	28	23	20	15	18	14	12	12	19	34	24
61	34	27	31	42	10	7	15	12	10	26	38	30	24	23	17	23	18	19	16	23	38	33
60	36	29	39	50	20	8	22	20	14	49	44	33	26	27	23	27	27	24	20	27	43	42
59	40	38	46	54	45	10	24	27	43	55	48	39	30	33	35	32	35	30	22	29	47	45
58	43	42	55	57	46	21	33	48	54	57	51	42	35	48	47	45	40	44	31	39	52	48
57	49	50	70	63	49	32	42	52	62	60	54	58	45	51	49	56	50	50	47	52	62	53
56	58	60	78	68	57	45	44	58	65	65	59	73	63	55	60	72	80	93	57	63	67	58
55	69	73	92	75	67	52	50	70	73	71	67	83	80	85	76	95	97	101	77	96	73	65
54	75	95	97	87	83	73	65	80	88	80	88	110	98	110	111	114	105	112	104	108	88	73
53	110	126	104	94	93	104	84	93	100	99	112	135	127	133	127	125	122	119	123	128	118	103
52	164	147	117	132	109	130	115	116	123	116	132	153	152	145	152	144	135	135	134	142	137	149
51	195		155	152	163	158	138	146	140	144	152	170	162	170	196	172	155	155	152	155	195	166
50	215		215	182		187	162	190			175	206					190	182	183	217	218	195
49																						
48																						

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 217 Date: 9-8-55

Time →	1450	1500	1510	1520	1537	1620	1735
72°							
71							
70							
69							
68							
67							
66			66·5 5	662 3		66·5 4	
65		65·3 7	6	5	65·2 3	6	65·1 5
64	64·5 10	10	7	7	8	7	6
63	13	11	8	9	14	8	20
62	19	15	10	10	22	10	25
61	34	22	15	12	25	15	26
60	41	30	23	17	32	20	35
59	46	35	33	23	35	25	77
58	53	37	36	27	37	34	79
57	59	38	40	35	40	40	90
56	62	44	42	44		45	
55	63	51	47	65		51	
54	66	59	72			65	
53	95	110	104			94	
52	135						
51							
50							
49							
48							

TEMPERATURE INVERSIONS

Cruise 217 Date: 9-8-55

Time: 1023

Temp.	Depth
62	Surf.
63	4
63	7
62	12
62	15
62	25
61	30

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 217 Date: 9-9-55

Cruise Description: Bottom sediments were collected for bacteria study. Plankton, bathytherms, and water transparency were noted, and fathometer traces were recorded.

Location: See corresponding hydrographic stations.

Station No. →	*3448	3449	3450	3451	3452	3453	3454	3455	3456	3457	3458	3459	3460	3461	3462	3463	3464	3465	3466	3467	3468	
72°																						
71																						
70																						
69																						
68		0																				
67		10	0												67.2 5							
66		13	16												15							
65	65.5 13	16	18												22	65.5 5						
64	17	17	20				64.6 3		0	64.2 5			0		24	6	64.5 20	0				
63	18	18	22				4		5	11		0	7		25	10	27	25	63.2 2	63.5 5	0	
62	21	20	23	62.5 14		62.2 6	10	62.5 12	12	18	62.5 10	6	10	62.4 7	26	18	30	38	10	10	5	
61	23	22	25	15		18	12	18	16	22	11	23	15	10	27	24	33	39	15	18	8	
60	25	24	26	16	605 10	21	37	22	27	36	12	25	28	12	30	28	35	42	22	20	10	
59	30	27	28	17	22	22	50	28	32	42	15	30	32	17	32	30	41	43	29	24	17	
58	35	32	35	18	30	24	53	40	44	46	38	34	35	37	34	32	47	47	35	29	23	
57	40	37	44	25	39	29	62	48	50	50	44	41	38	32	36	37	52	52	41	33	27	
56	49	41	50	37	45	50	98	67	67	82	55	51	40	40	42	47	61	58	54	39	43	
55	60	50	58	52	52	57	110	83	78	90	60	55	44	52	48	56	68	70	58	52	55	
54	90	72	79	58	72	70	121	100	113	120	108	70	54	66	55	87	80	80	65	68	62	
53	127	105	97	70	95	82	136	137	142	142	139	90	67	83	85	105	100	95	80	82	85	
52		127	140	105	105	92	180	182	200	180	188	102	83	97	115	125	130	120	100	100	100	
51			160	143	142	113	254	227	225	210	260	125	129	140	147	148	148	142	114	115	122	
50				216	172	178	310	341				175	202	185			185	183	195	152	160	
49					215		400	410									217					
48																						

TEMPERATURE INVERSIONS

Cruise 217 Date: 9-9-55

Station: 3448

Temp.	Depth
65.5	Surf.
66	5′
66	10
65	13

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 218 Date: 9-14-55

Cruise Description: Three detailed hydrographic stations were worked along with six snapper sample stations. Coincidentally, bathytherms, plankton hauls, surface water samples, and transparency measurements were made. Fathometer tracings were recorded.

Location: See corresponding hydrographic stations.

Station No. →	3469	3470	3471	3472	3473	3474	3475	3476														
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65	0		65.5 5	65.0			65.2 7	65.6 5														
64	30	64.2 5	20	25	64.2 20	0- 12	15	13														
63	35	26	27	55	27	20	18	19														
62	45	40	40	60	33	24	22	26														
61	53	48	40	61	39	29	23	29														
60	55	57	49	62	42	38	24	32														
59	60	60	55	66	48	45	24	35														
58	70	72	64	72	51	48	25	50														
57	76	85	80	90	58	58	48	68														
56	105	105	94	91	67	78	54	76														
55	146	118	122	120	91	85	58	119														
54	176	180	170	145	160	126		158														
53	210	220	230	180	195	172		195														
52	260		245	221	240	238		235														
51	305		265	242				260														
50	385			300																		
49	700			390																		
48	900			800																		

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

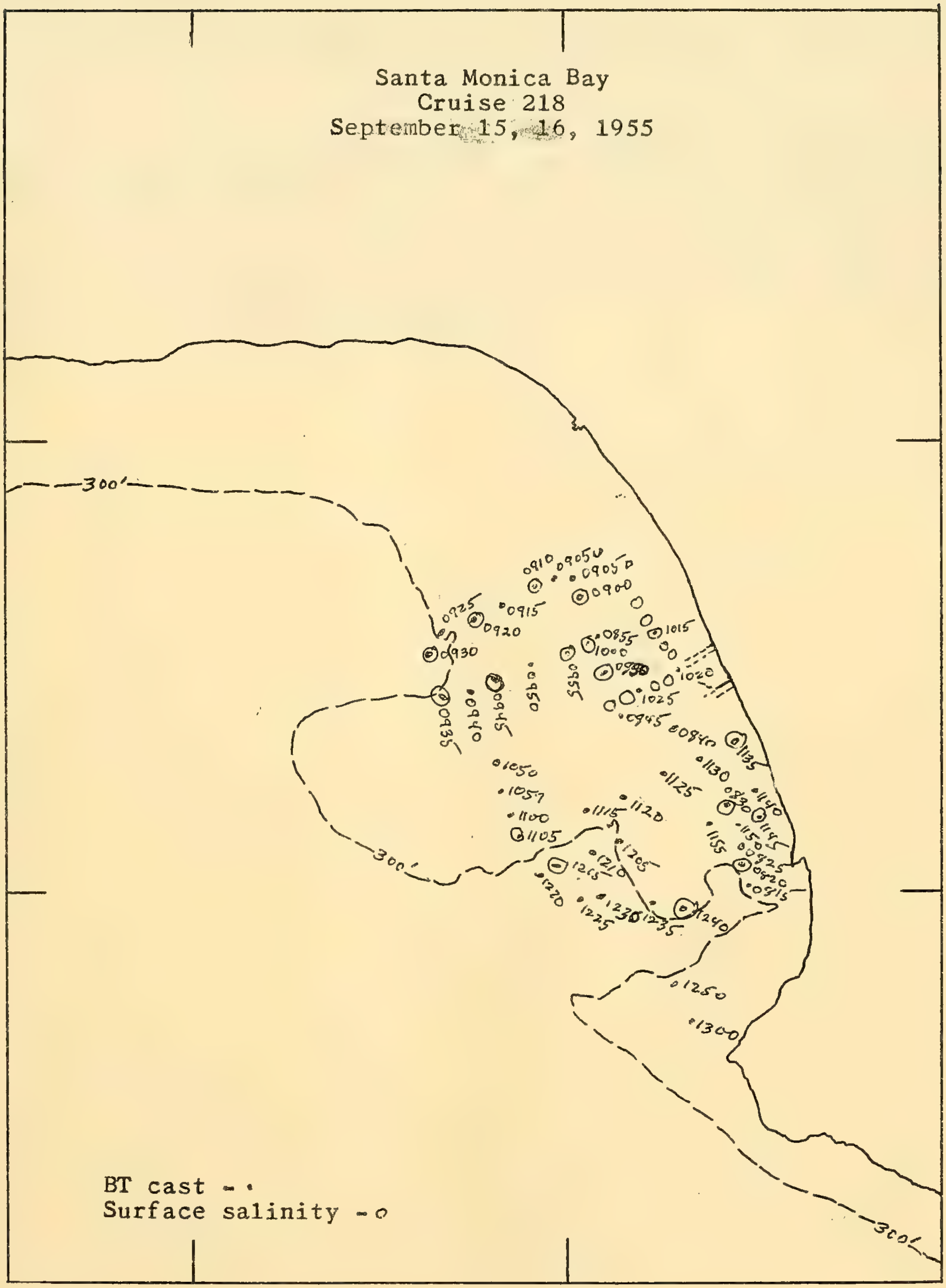
Cruise Number 218 Date: 9-15-55

Cruise Description: Hayward grab samples were taken for sediment analysis and biological purposes. At each station, a water sample, water temperature, and transparency were taken. During the night, current meter and BT were operated at the anchor station.

Location: See corresponding hydrographic stations.

Time →	2010	2044	2113	2143	2214	2241	2312	0004	0034	0102	0102	0159	0228
72°													
71													
70													
69													
68													
67													
66													
65	653 5												
64	18	64.5 13	642 10	0	0	0							
63	20	17	17	15	10	10	63.5 4		0	0		632 10	
62	21	18	20	20	15	14	8	62.9 7	5	9	62.8 7	14	
61	22	22	24	24	21	19	15	15	15	13	9	17	
60	25	25	27	26	23	24	26	25	23	24	15	20	
59	28	30	32	30	27	30	34	33	30	35	32	32	
58	36	35	38	34	34	34	37	39	37	38	35	35	
57	42	41	42	42	42	44	49	46	45	44	42	44	
56	47	46	46	46	48	51	56	48	52	50	49	53	
55	53	54	54	53	60	64	65	59	61	60	61	65	
54	60	59	59	60	70	73	76	75	75	75	75	77	
53	80	75	75	75	88	90	92	102	102	100	107	105	
52	115	105	105	104	110	110	112	123	120	120	128	125	
51	125	142	140	134	135	143	140	152	154	155	175	165	
50		180	180	175	180	180	185						
49													
48													

Santa Monica Bay
Cruise 218
September 15, 16, 1955



BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 218 Date: 9-15, 16-55

Cruise Description: Bathythermograph and current meter were operated at the anchor stion on the night of the 15th. The following day, a Bathythermograph traverse was run, water samples and temperatures were taken and fathometer tracings were made.

Time →	2040	2106	2145	2215	2244	2329	0002	0041	0124	0200	0230	0259	0330	0401	0430	0457	0527	0556	0624	0650		
72°																						
71																						
70																						
69																						
68	68.3 9	68.2 12	0- 10																			
67	16	19	23	67.9 23	67.9 20	67.5 18	67.5 15	67.4 17			67.2 16	67.2 10	0-9	0-5	0-5							
66	22	25	34	34	32	27	24	25	66.2 18	66.8 23	25	17	15	13	13	66.9 10	66.5 13	66.5 12	66.3 13	66.4 15		
65	24	28	36	36	35	35	27	27	23	24	28	18	17	15	15	13	14	13	15	17		
64	26	29	37	37	38	40	28	29	31	26	30	22	19	17	16	15	16	15	17	18		
63	27	30	40	38	42	42	30	30	33	27	32	25	23	18	17	16	17	18	18	19		
62	30	33	42	39	43	43	36	36	35	31	34	28	29	21	18	17	20	19	21	20		
61	35	36	43	40	44	45	38	37	39	35	37	31	32	30	22	18	22	22	24	22		
60	37	38	44	41	45	46	39	39	43	40	38	40	42	35	25	20	23	25	36	29		
59	42	40	45	44	46	47	40	42	45	43	59	58	51	45	43	23	26	32	38	32		
58	50	45	50	45	48	48	43	44	47	45	64	62	59	57	56	43	50	41	47	43		
57	70	54	56	48	52	58	50	53	51	60	73	74	74	74	74	54	58	48	49	56		
56	81	76	64	61	65	68	65	68	64	73	78	77		80	80	73	81	62	59	64		
55	85		84	73	73	75	75	75	74	76						84						
54									80													
53																						
52																						
51																						
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 218 Date: 9-15, 16-55

Time →	0720	0815	0820	0825	0830	0840	0845	*0850	*0855	0900	0905-D	0905-U	0910	0915	0920	0925	0930	0935	0940	0945	0950	0955
72°																						
71																						
70																						
69			0-9	69·1 12																		
68			10	16	0-9																	
67		67·2 10	15	20	11	67·1 5																
66	66·1 17	12	19	22	18	16	66,8 18			66,5 23	66·2 38	66·2 15										66·2 15
65	18	13	21	25	24	21	26	655 26	655 23	26	39	17	65·8 36						0	65·7 15	65·7 30	43
64	20	15	22	27	27	24	28	28	25	27	40	18	45	64.6 35	64·2 12	64·3 10	64·2 10	64·6 14	16	28	40	49
63	21	19	23	29	29	30	30	30	26	28	41	21	48	40	22	20	24	20	26	37	48	51
62	23	25	26	30	30	34	35	32	27	30	42	24	50	44	25	35	35	39	36	39	50	52
61	28	28	27	33	31	39	42	35	32	31	43	25	53	47	29	39	41	42	39	42	52	55
60	35	31	30	36	33	42	43	40	36	35	46	34	55	48	45	48	46	46	51	58	54	65
59	37	34	39	39	37	45	48	46	41	41	47	40	60	59	57	55	58	50	58	63	64	72
58	42	49	47	43	45	48	52	50	47	48	54	50	66	65	71	63	65	63	84	71	78	79
57	63	55	54	48	53	54	68	65	63	59	61	61	73	77	95	70	78	70	86	100	101	86
56	72	65	64	64	65	66	84	87	71	80	75	75	83	95	105	95	98	92	109	118	110	102
55		79	93	78	103	111	111	105	89		96	96	102	111	127	122			129	135	130	111
54			115	132	126						110	110	125		140				160	202	147	130
53											131	131							201	201	188	142
52																						
51																						
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 218 Date: 9-6-55

Time →	*1000	1005	*1015	*1020	1025	1030	1035	1040	1045	1050	1057	1100	1105	1115	1120	1125	1130	1135	1140	1145	1150	1155
72°																						
71																						
70																		70.5 5	70.3 4	0-6		
69																	69.5 10	11	11	10	69.9 8	69.5 9
68																68.5 6	15	19	14	17	11	17
67		67.5 10			67.5 16										67.7 6	10	20	23	17	21	16	24
66		21	0		21	66.9 15	0	0	66.4 5	0				66.5 10	33	24	25	25	20	23	17	30
65	65.5 25	22	29	65.5 24	23	20	30	15	10	3	65.7 7	65.5 9	65.5 20	31	37	25	28	26	23	25	18	31
64	26	23	33	25	25	22	35	25	15	10	12	17	28	37	38	26	30	27	25	26	20	32
63	27	23	34	26	26	23	38	31	19	12	13	21	35	63	40	28	31	28	26	27	23	35
62	28	24	37	27	28	24	41	37	23	15	16	25	42	47	42	30	32	29	27	28	26	38
61	30	27	42	29	30	32	45	41	26	24	29	37	44	49	47	33	33	30	28	29	28	40
60	34	32	43	33	32	35	51	44	36	30	34	48	47	52	48	35	34	32	29	30	30	42
59	37	35	47	35	35	38	57	50	47	33	35	53	49	60	55	38	35	34	31	33	34	44
58	40	47	49	46	44	46	62	64	57	65	62	66	62	71	65	44	38	56	36	37	40	48
57	59	52	62	66	51	66	91	84	75	74	75	93	74	86	79	53	43		44	45	48	58
56	76	69	71		78	88	106	105	94	85	97	112	86	100	88	70	59		65	55	67	70
55	90	88			108	115	120	128	120	143	148	146	118	115	105	85	103			85	93	86
54	120					135	139	143	155	171	167		153	134	120	122					154	124
53						156	160	160	168	195	203		199	155		164						195
52																						
51																						
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

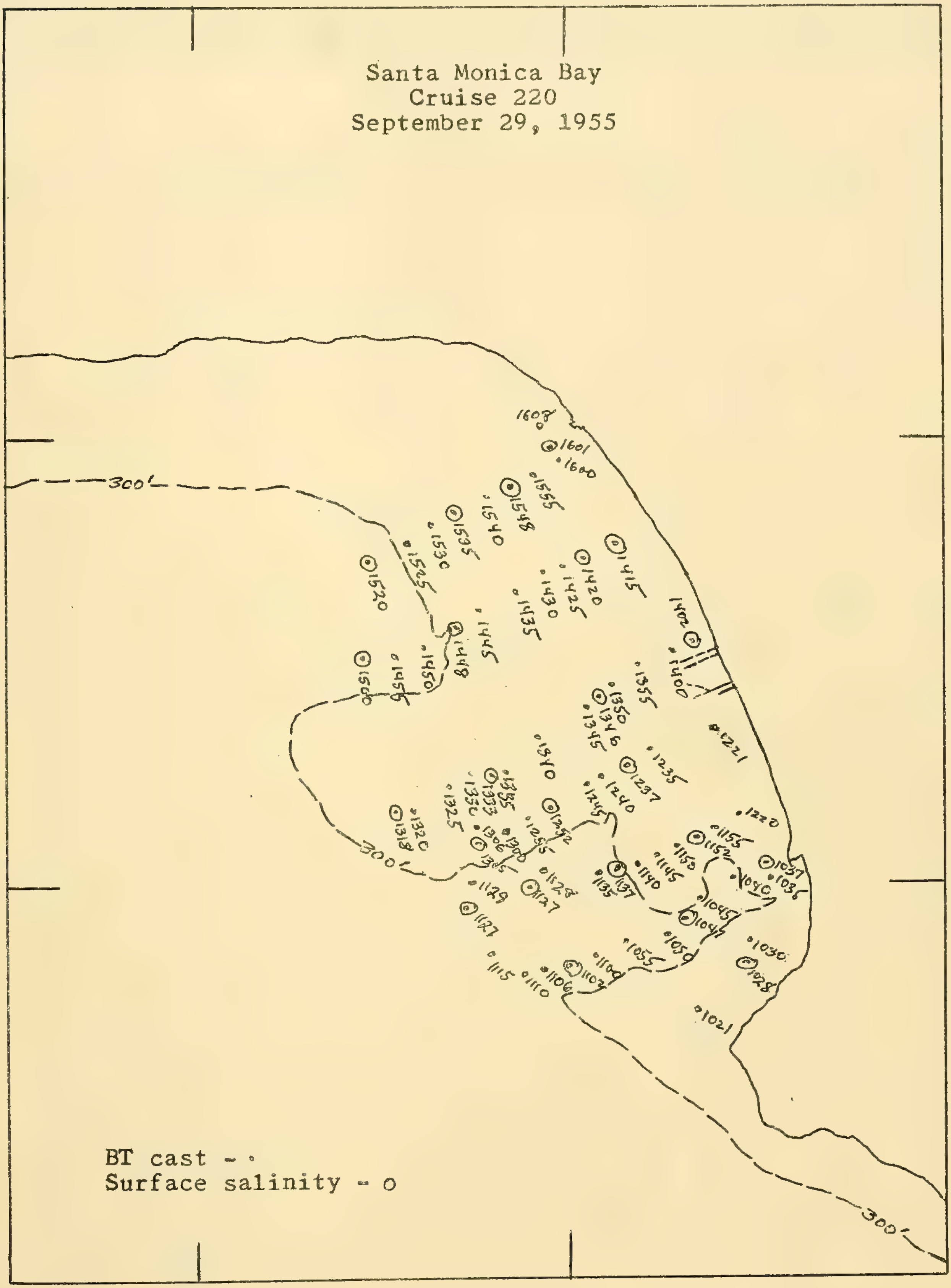
Cruise Number 218 Date: 9-16-55

Time →	1205	1210	1215	1220	1225	1230	1235	1240	1250
72°									
71									
70									
69									
68	0								
67	10	0-5				67.5 10	0.5	67.5 12	
66	18	20			66.5 14	17	15	17	0-10
65	27	30	65.3 15	65.9 12	19	22	20	18	15
64	29	34	34	25	20	25	21	19	16
63	32	37	42	30	22	28	23	22	17
62	34	40	44	33	25	30	27	25	18
61	39	53	45	35	27	33	32	27	19
60	45	57	52	37	34	39	36	34	24
59	49	64	68	61	41	46	44	51	33
58	60	68	73	74	51	54	57	59	44
57	70	80	88	91	75	72	68	74	54
56	91	105	105	100	112	87	77	85	66
55	110	121	139	124	129	103	96	108	93
54	133	139	166	150	145	135	115	133	130
53	170	182	195	185	193	170	145	175	
52						202	185	200	
51									
50									
49									
48									

TEMPERATURE INVERSIONS

Cruise 218 Date: 9-15,16-55

Time: 0850		0855		1000		1015		1020	
Temp.	Depth	Temp.	Depth	Temp.	Depth	Temp.	Depth	Temp.	Depth
65.5	Surf.	65.5	Surf.	65.5	Surf.	66	Surf.	65.5	Surf.
66	10′	66	3′	66	8′	66	4′	66	7′
67	18	66	17	66	23	67	6	67	9
66	22	65	23			68	8	68	11
						67	15	68	16
						66	16	67	20
						65	17	66	22
						64	22	65	24
						64	28		
						65	29		
						64	33		



Santa Monica Bay
Cruise 220
September 29, 1955

BT cast - •
Surface salinity - o

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 220 Date: 9-29-55

Cruise Description: A series of drift bottle drops were made at Stations in Santa Monica Bay. Coincidentally, a Bathythermograph survey was run and surface water samples collected.

Time →	1021	1030	1035	1040	1045	1050	1055	1100	1106	1110	1115	1128	1135	1140	1145	1150	1155	1200	1221	1235	1240	1245
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65	0																					
64	17	64.8 25	64.5 20	64.5 26	64.5 12							0					64.5 7	64.8 18	64.5 17	64.4 10	64.5 10	64.1 3
63	23	32	27	35	35	63.8 25	63.8 30	63.5 32	63.3 30	63.5 42	63.7 44	36	63.7 27	63.4 1024	63.4 10	63.9 25	30	33	28	35	30	29
62	25	33	38	37	37	32	35	40	45	51	48	40	38	36	42	40	38	39	35	42	50	45
61	26	34	39	38	39	34	37	46	48	56	52	42	44	44	48	43	40	40	37	45	52	48
60	28	40	43	40	41	40	39	49	52	60	57	45	45	45	49	44	42	42	41	47	54	50
59	39	46	49	54	44	43	44	52	57	63	59	49	48	48	50	45	44	49	46	49	56	53
58	48	52	51	59	47	52	55	60	60	67	63	58	55	51	60	48	51	58		55	58	55
57	54	56	55	64	63	64	70	69	72	74	65	63	64	60	63	67	59	61		62	63	60
56	65	65	62	75	80	79	86	88	87	85	80	78	82	83	79	82	75	69		72	78	85
55	83	75	75	88	101	101	100	98	100	97	97	106	107	96	99	104	93	80		86	100	103
54	102	94	95	104	122	130	126	125	117	117	115	123	124	117	132	135	112	96		111	125	129
53	132	128	122	134	151	167	172	162	135	126	131	160	160	175	185	160	128	121		146	157	157
52	155	155	152	164	177	186		192	160	160	161	195	195	202	190	172	167			160	175	185
51	190	200	197	185	196	203					205						205				185	
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 220 Date: 9-29-55

Time →	1255	1300	1306	1320	1325	1330	1335	1340	1345	1350	1355	1400	1415	1420	1425	1430	1435	1445	1450	1455	1500	1520
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64								0	64.1 2	64.3 10	64.4 20	64.4 12	0	0								
63	63.2 3						63.5 10	34	42	39	37	32	34	22	63.5 16	0-9						
62	29	629 17	62.5 9			62.5 9	25	50	48	42	39	40	35	37	34	25	625 12					62.3 15
61	41	40	35	61.3 5	61.8 11	28	46	54	51	46	45	44		46	38	38	43	61.3 13	0-5	61.5 12	61.5 11	32
60	45	43	45	23	27	40	53	57	53	52	46	45		47	45	40	45	35	36	28	23	43
59	47	45	52	40	41	49	56	58	57	54	48	46		48	48	45	46	45	48	42	31	46
58	53	64	54	45	50	60	57	60	60	59	52	47		50	55	49	49	53	52	51	44	47
57	65	71	58	47	55	67	62	66	63	75	58	51		55	62	55	63	59	61	55	48	49
56	90	91	75	65	75	78	73	77	76	84	73	62		58	73	63	72	70	74	60	51	52
55	116	104	108	88	104	101	90	92	92	92	82			65	82	85	85	85	89	83	59	64
54	138	138	151	130	135	122	112	116	114	114	98				94	102	108	106	114	115	80	85
53	169	170	185	165	165	153	137	157	148	137							147	122	139	155	125	137
52	200	200	200	193	184	174	175		169									134	175	190	187	205
51						193												185			205	
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 220 Date: 9-29-55

Time →	1525	1530	1535	1540	1548	1555	1600	1608
72°								
71								
70								
69								
68								
67								
66								
65								
64							0	
63					63.3 10	63.5 26	31	0
62					21	32	40	27
61	61.5 23	0	61.5 20	61.5 30	35	35	41	37
60	33	29	30	40	38	38	44	40
59	36	34	38	45	40	42		41
58	38	38	44	48	42	46		43
57	40	42	52	55	50	51		49
56	44	51	60	66	63	65		55
55	55	64	71	76	84	82		
54	80	85	86	89	116			
53	115	124	115	123	135			
52	180	181	170	157				
51			210	182				
50								
49								
48								

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

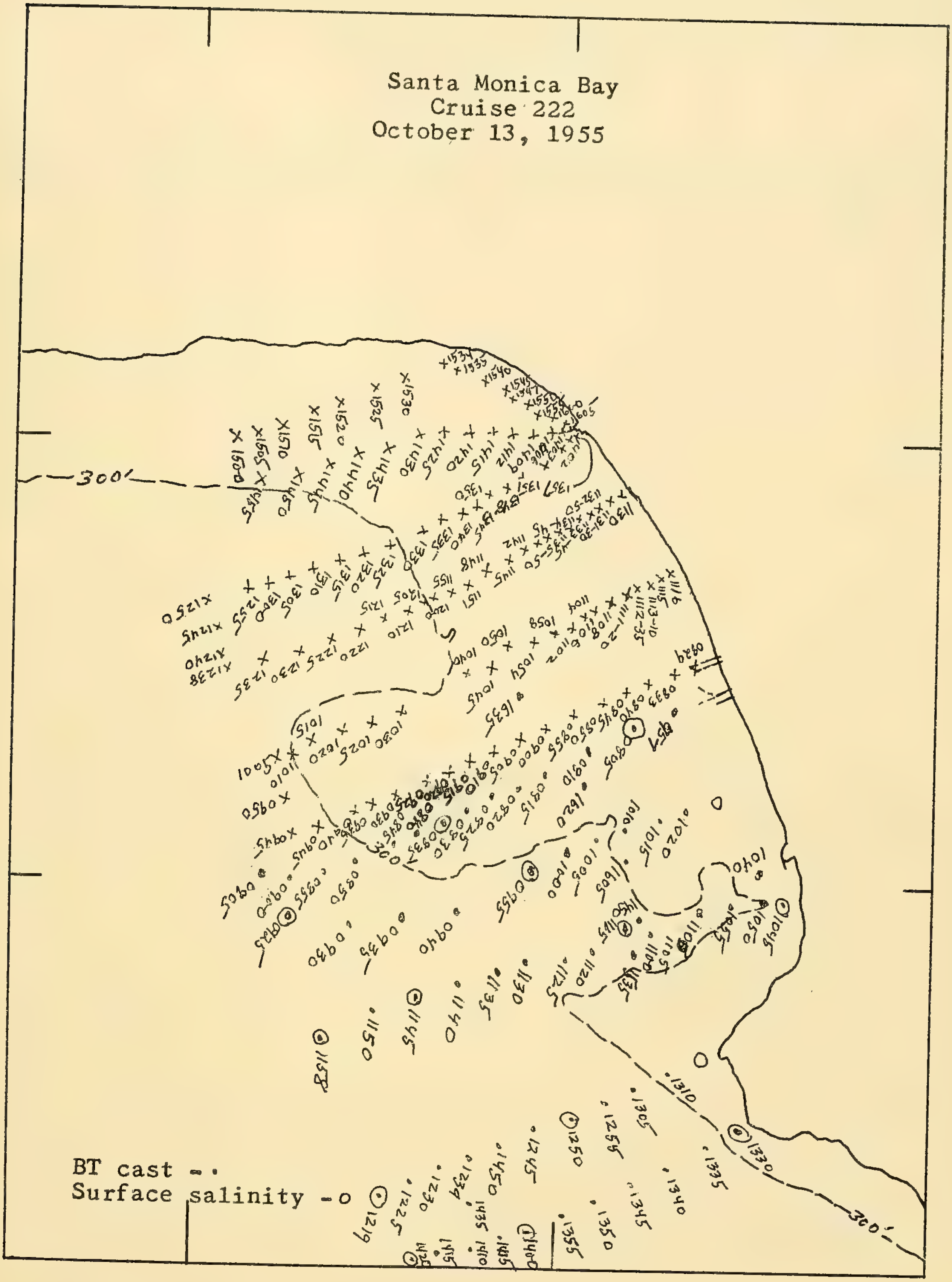
Cruise Number 220 Date: 9-30-55

Location: See corresponding Hydrographic Stations.

Cruise Description: Two detailed Hydrographic Stations were occupied along with a series of Bottom Sediment Sample Stations.
Ave. Surface Temp. 63.1

Station No. →	3526	3527	3528	3529	3530	3531	3532	3533 D	3533 U
72°									
71									
70									
69									
68									
67									
66									
65							65.1 5		
64							13	64.5 10	64.5 3
63				63.4 32	63.3 85	0	15	20	36
62				39	49	40	18	25	40
61	61.5 65	61.7 41	61.5 40	48	52	44	21	26	41
60	73	50	53	50	54	46	23	28	44
59	81	70	62	57	55	47	27	34	46
58	85	77	70	61	57	49	31	40	50
57	90	85	75	70	62	55	36	46	55
56	103	101	91	79	79	75	38	69	69
55	134	120	102	92	102	105	50	85	85
54	156	169	158	108	115	135	56	100	100
53	195	190	185	133	150	185	84	122	122
52		205		150	168		111	150	150
51					200			193	193
50									
49									
48									

Santa Monica Bay
Cruise 222
October 13, 1955



BT cast —•
Surface salinity —o

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 222　　Date: 10-13-55

Cruise Description: Bathythermograph traces were made throughout the Southern part of Santa Monica Bay and off Palos Verdes. Fathograms were also obtained.

Ave. surface temp. 60.5

Time →	0757	0805	0810	0815	0820	0825	0830	0835	0840	0845	0850	0855	0900	0905	0925	0930	0935	0940	0955	1000	1005	1010
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61	0		0-11			0	0	0						61.5 15	61.8 30		0	0			0	61.2 1535
60	10	60.8 31		60.8 53	60.8 44	40	40	19	60.4 10	60.4 30	60.2 25	60.8 35	60.9 39	65	52	60.5 53	35	33	60.8 30	60.8 45	63	58
59	60			63	60	50	45	44	34	42	44	45	52	75	57	64	50	48	65	67	72	70
58	70			70	70	71	64	50	40	63	56	56	59	81	68	73	57	59	70	76	82	78
57	72			75	77	84	70	57	49	67	69	64	72	88	75	80	75	70	80	88	86	87
56	78			88	80	92	77	68	59	72	77	74	81	92	87	95	89	83	100	105	91	92
55																						
54				106	98	100	119		78	93	108	97	115	118	112	128	118	117	118	127	125	126
53						120	130		102	115	126	120	135	132	129	136	133	135	138	160	160	156
52						148	146		115	151	154	165	173	167		152	155	158	180	190	180	185
51						180	180		140	185	185	187	200	203		190	200	195	205	195	196	198
50									196													
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 222 Date: 10-13-55

Time →	1015	1020	1040	1045	1050	1055	1100	1105	1110	1115	1120	1125	1130	1135	1140	1145	1150	1158	1219	1225	1230	1239
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63			0		63·5 10													0		0		
62			5	62.9 10	14	62·2 5										0	62·5 14	35	62·8 30	28	62·5 20	
61	0		15	24	20	17	0		61·2 5	61·2 5	61·3 9	61·5 10	61·5 12	61·2 9	61·2 8	24	48	54	55	43	50	61·9 36
60	55	60.7 40	34	49	43	47	60	60.8 62	45	55	39	42	48	37	30	49	67	60	64	54	65	65
59	72	71	47	58	54	68	85	75	60	70	55	52	52	54	55	60	78	90	85	85	85	76
58	76	73	57	63	63	76	91	95	86	78	60	62	65	70	65	74	88	99	105	108	93	87
57	82	78	62	75	72	88	102	102	97	92	72	75	73	75	83	82	100	110	112	115	103	96
56	91	83		100	78	100	108	115	103	100	82	98	78	85	87	95	110	118	121	125	115	104
55																						
54	124	125		140			160	148	140	130	138	119	125	116	110	113	135	138	137	142	136	130
53	165	160		150			174	175	165	165	168	141	140	127	123	125	146	146	158	155	147	152
52	175			172			190	185	185		192	180	180	175	155		168	175	185	183	172	185
51	210			190			210	199				197		192			210	210			206	
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 222 Date: 10-13-55

Time →	1245	1250	1255	1300	1305	1310	1330	1335	1340	1345	1350	1355	1400	1405	1410	1415	1420	1435	1450	1505	1520	1535
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62															62·5 15	62,9 28	62,9 46	62·5 17	62·2 10			
61	61·5 14	61·5 12	61·2 5	0-7	0-5	0	61·2 9	61·2 10	61·2 10	61·5 20	61·3 5	61·2 10	61·2 8	61·5 15	45	55	64	55	38	61·4 7	61·2 4	61·5 12
60	15	62	45	60	45	44	61	45	60	72	50	50	44	49	62	73	71		60	54	42	42
59	62	67	63	74	69	72	66	72	80	83	69	63	52	66	90	90	105		78	65	55	70
58	77	77	77	77	83	80	75	88	97	91	76	70	83	80	104	106	120		92	76	75	90
57	86	92	82	83	91	82	120	100		100	80	78	89	88	110	110	131		100	90	89	108
56	101	110	93	105	98	103	145	122		103	98	94	111	104	113	116	143		108	103	100	114
55																						
54	123	140	130	155	152	145		160		150	140	158	145	135	145	154	156		129	121		166
53	160	165	170	185	175	164		172		166	185	184		172	152	163	178			149		200
52	192	195	192			195				191				190		182	192			174		
51																				210		
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 222

Date: 10-13-55

Time →	1540	1605	1620	1635
72°				
71				
70				
69				
68				
67				
66				
65				
64				
63				
62				
61	61.5 10	0-14	61.2 15	61.2 12
60	55	55	54	40
59	63	73	63	64
58	78	88	66	80
57	101	94	74	85
56	105	99	82	95
55	125	106	95	107
54	150	126	104	114
53	190	150		127
52		180		
51		210		
50				
49				
48				

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 222 Date: 10-13-55

Cruise Description: Bathythermograph observations were made at periodic intervals throughout the evening at the anchor station.

Ave. Surface Temp. 61.0

Time →	1712	1716	1718	1720	1722	1724	1726	1728	1730	1732	1734	1736	1738	1740	1742	1744	1746	1748	1751	1754	1756	1758
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61	0	0		0			0					0		0	0	0	0	61·2 3	0	61·2 5	0	0
60	34	32	60.8 25	29	60·7 22	60·7 20	20	60·4 18	60,9 30	60.9 28	60.9 25	29	60.9 29	25	20	25	23	25	25	23	24	23
59	60	61	57	57	55	55	55	52	54	52	51	53	54	53	50	51	51	50	47	45	45	46
58	67	68	64	63	62	60	60	59	60	59	58	60	60	60	59	57	57	57	53	50	50	52
57	77	77	75	73	71	70	69	68	70	69	67	68	69	68	67	65	67	68	65	64	63	65
56	93	91	85	85	82	81	80	77	80	78	77	78	79	77	76	75	76	77	75	71	72	72
55	98	97	95	92	91	89	88	89	89	88	88	88	89	89	89	89	90	91	89	85	84	87
54	119	120	108	114	108	105	109	101	111	107	109	109	110	109	105	108	111	112	113	110	109	111
53	140	141	137	138	136	132	133	127	135	130	130	130	132	132	130	132	135	137	136	135	135	137
52	156	156	150	155	152	149	150	148	159	150	153	152	154	154	151	153	158	160	161	160	160	161
51	185	190	182	188	188	187	187	182	189	189	190	191	192	193	190	190	193	195	195	193	195	196
50	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200		210	212	205	
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 222 Date: 10-13-55

Time →	1800	1802	1804	1806	1808	1810	1829	1928	1940	1955	2010	2025	2035	2101	2125	0713						
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61	0-5	61·5 8	61·5 12	61·4 13	61·4 14	61·3 13	61·3 12	61·2 6	61·2 7	61·1 4	0	61·2 4	61·2 4	61·2 8	0							
60	24	27	30	30	32	33	30	15	19	19	17	20	20	20	15	60.7 30						
59	45	42	43	46	46	48	45	34	32	30	33	31	34	32	37	47						
58	51	52	52	53	55	57	50	47	45	42	44	42	42	41	44	60						
57	62	61	60	62	63	63	60	55	50	49	47	45	45	44	49	65						
56	73	77	75	75	75	80	69	65	65	57	53	52	50	50	61	80						
55	87	88	87	85	86	90	85	82	80	80	80	75	79	84	85	90						
54	110	120	114	111	114	115	112	102	100	95	97	93	95	106	109	110						
53	135	140	137	135	138	140	138	122	119	115	125	133	122	132	140	153						
52	160	171	172	167	172	175	175	179	180	180	183	188	190	197	190	186						
51	195	190	191	190	192	193	193	189	192	196	195	200	202	202		193						
50	205																					
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 222 Date: 10-13-55

Cruise Description: Bathytherms were obtained by Bureau of Sanitation observers. Hyperion BT correction is + 0.6°F. 1° F must be added to the Hyperion reading to allow comparison with U.S.N. readings.

Time →	0829	0833	0840	0845	0850	0855	0900	0905	0910	0915	0920	0925	0930	0935	0940	0945	0950	1005	1010	1015	1020	1025
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62	0																					
61	8		61.3 2																			
60	24	60.5 3	9	60.4 27	60.3 30	60.4 25	60.5 30	60.4 31	60.6 17	60.6 35	60.7 19	60.8 22	60.4 23		0	60.4 20	60.4 24			60.2 10		60.6 30
59		25	45	50	65	50	48	50	40	41	39	28	26	59.8 28	30	43	50	59.9 33	59.8 25	25	59.9 34	38
58			60	63	78	54	62	60	56	55	52	38	37	35	45	50	62	44	34	34	41	51
57			63	70	92	70	66	67	64	62	60	50	48	42	57	62	75	48	51	47	49	54
56			85	92	108	76	75	70	74	68	69	56	60	48	63	73	78	61	65	49	51	63
55				98		82	85	75	82	72	75	80	70	60	72	77	87	71	77	57	57	67
54				109		109	95	87	93	98	90	92	86	75	89	92	93	80	87	63	65	73
53						125	110	140	126	115	108	108	100	98	102	120	115	92	106	76	83	89
52							153	155	150	145	117	128	115	127	138	151	150	117	130	96	100	105
51											170		164	155	170	170	175	164	153	140	125	148
50																					185	
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 222 Date: 10-13-55

Time →	1030	1035	1040	1045	1050	1054	1058	1102	1104	1106	1108	1110	1111½	1112½	1114	1115	1116	1130	1131	1131½	1133	1134
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60	60.8 25	60.9 27	60.7 15	60.5 25	60.4 25	60.3 20	60.2 15	60.3 13	60.3 24	60.3 25	60.2 15	60.2 12	60.3 10	60.5 25	60.4 23	60.4 20	60.4 19	60.2 5		15	60.3 13	60.3 18
59	38	42	25	33	43	27	28	25	50	55	29	35	45	42	40	40	40			28	27	25
58	50	52	31	41	48	48	58	83	95	92	80	85	79									
57	54	58	50	52	55	68	30	113	105	97												
56	64		62	58	66	76	95	116	113													
55	70		66	64	78	95	110															
54	75		74	80	112	114	127															
53	82		95	120	135	135																
52	110	110	129	143																		
51	170	165	185																			
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 222 Date: 10-13-55

Time →	1135	1136	1137	1138	1139	1142	1145	1148	1151	1155	1200	1205	1210	1215	1220	1225	1230	1235	1240	1245	1250	1255
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60	60·3 18	60·2 20	60·2 17	60·1 15	60·2 23	60·4 15	60·4 17	60·4 11	60·2 10	60·3 15	60·5 26	60·5 29	60·7 31	60·7 30	60·7 20	60·3 20	60·4 50	60·8 15	60·6 27	60·5 30	60·8 25	60·7 25
59	29	31	28	26	35	40	28	17	26	37	38	42	35	45	33	37	60	52	40	39	29	35
58				69	78	85	75	40	40	45	51	53	44	51	55	48	65	60	46	44	40	42
57								100	75	59	63	70	54	57	63	55	73	75	50	56	44	46
56								118	97	75	75	82	63	65	75	60	77	80	68	66	56	54
55									123	90	84	92	70	72	82	75	79	89	80	80	65	61
54									130	127	115	105	89	95	90	81	90	98	100	93	90	70
53									141	142	138	126	105	105	105	95	100	110	118	109	112	102
52											175	141	115	135	130	130	143	165	155	155	175	155
51												184		160	170	175						190
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 222

Date: 10-13-55

Time →	1300	1305	1310	1315	1320	1325	1330	1335	1340	1345	1348	1351	1354	1357	1400	1403	1406	1409	1412	1415	1420	1425
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61										61.2 3											61.3 4	
60	60.7 25	60.6 25	60.3 20	60.4 13	60.4 20	60.3 15	60.5 16	60.4 20	60.7 26	10	60.4 11	15	60.9 15	60.5 17	60.7 6	60.5 7	60.9 11	60.5 20	60.8 13	60.8 10	13	60.3 13 +
59	37	33	41	42	35	32	33	33	37	17	17	20	24	37	25	13	27	35	31	17	18	15
58	43	38	54	55	43	41	45	42	43	19	22	30	64	56				33	50	61	30	20
57	49	48	62	63	55	53	51	53	55	35												45
56	60	59	70	73	67	61	70	63	75	92												103
55	67	76	83	80	75	67	84	91	96													
54																						
53	115	131	120	130	110	106	140	150														
52	155	175	153	165	165	155	152	165														
51	193						167	175														
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 222

Date: 10-13-55

Time →	1430	1435	1440	1445	1450	1455	1500	1505	1510	1515	1520	1525	1530	1535	1540	1545	1547	1550	1555	1600		
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61	61.4 8	61.3 8	61.4 8	61.5 6	61.5 10	61.4 10	61.3 10	61.2 12	61.2 13	61.2 12	61.2 8	61.1 10			0							
60	25	24	21	20	25	23	17	24	26	18	17	19	60.8 20	60.9 11	10	60.6 10	60.8 14	60.6 15	60.7 12	60.7 10		
59	32	30	33	26	29	25	32	29	28	29	22	27	26	40	40	30	27	25	18	15		
58	42	36	50	32	35	33	40	34	30	30	25	35	70					48				
57	60	48	70	54	44	39	43	39	45	38	35	110										
56	85	85	91	63	55	50	50	50	75	85	106											
55	114	114	129	105	110	108	115	127	124	125	112											
54																						
53		129	140	144	170	169	151	164	160	158	123											
52		145	146	164		182	170	176	168	163												
51			170					186	189													
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 224 Date: 10-21-55

Location: See corresponding Hydrographic Stations.
Cruise Description: On the morning of the 21st, Bottom Sediment samples and surface water samples were collected near the Whites Point Sewer Outfall for Bacterial study. Nutrient determinations, Plankton Hauls, BT Casts, and Secchi Disk readings were made at each station.

Station No. →	3551	3552	3553	3554	3555	*3556	3557	3558	3559	3560
72°										
71										
70										
69										
68										
67										
66										
65										
64										
63										
62										
61	61.5 3	0		0		0	0	0	0	0
60	35	20	60.5 25	34	60.9 15	23	19	30	32	24
59	40	25	39	40	23	30	21	38	38	32
58	43	46	43	43	30	38	27	44	45	41
57	51	48	46	47	46	40	30	48- 59	55	65
56	60	53	55	60	60	45	34	69	76	85
55	74	58	62	73	69	56	60	91	96	95
54	95	75	95	95	86	69- 115	104	119	105	115
53	125	96	113	118	110	134	128	137	121	129
52		141		144	135	165	153	179	160	205
51				183	167		190			
50										
49										
48										

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 224 Date: 10-21-55

Location: See corresponding Hydrographic Stations.

Cruise Description: On the afternoon of the 21st, a detailed Bathythermograph series was run to determine water structure normal to the coast in the Whites Point area.

Ave. Surface temp. 61.0

Time →	1456	1500	1503	1506	1509	1512	1515	1520
72°								
71								
70								
69								
68								
67								
66								
65								
64								
63								
62								
61			0	0	0	61·3 15	61·3 10	61·6 26
60	60·9 13	60·3 10	27	34	40	34	34	40
59	16	27	35	40	50	40	46	55
58	26	39	44	46	54	49	58	66
57	35	51	48	59	58	56	69	75
56	38	65	65	85	73	75	95	98
55	47	73	93	106	90	102	108	110
54	65	80- 100	108	115	103	129	123	125
53			117	127	141	150	145	148
52			189	170	171	175	165	172
51					190	200	190	
50								
49								
48								

TEMPERATURE INVERSIONS

Cruise 224 Date: 10-21-55

Station: 3556

Temp.	Depth
61	Surf.
60	23'
59	30
58	38
57	40
56	45
55	56
54	69
54	90
54	115
53	134
52	163

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 224 Date: 10-22-55

Location: See corresponding Hydrographic Stations.

Cruise Description: A series of surface and subsurface Bacteriological samples were obtained in the vicinity of the Orange County Sewer outfall. Bottom samples and water conditions were observed and a dye patch placed in the boil was followed for 6 hours.

Station No. →	3561	3563	3564	3565	3566	3567	3568	3569														
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63								63·5 22														
62					62·3 6		62·9 28	41														
61	0- 25	0- 20	61·9 40	61·9 35	32	61·9 35	39	60														
60	35	35	48	43	40	40	43	78														
59	38	40	49	44	42	43	46	83														
58	45	43	51	47	43	47	50	91														
57		49	62	62	60			100														
56								107														
55																						
54																						
53																						
52																						
51																						
50																						
49																						
48																						

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 226 Date: 11-3-55

Location: See corresponding Hydrographic Stations.
Cruise Description: Eight Hydrographic Stations were occupied Southwest of the Los Angeles County Outfall. Bacteria surface and subsurface samples were obtained from an inner boil and cores were taken for bacterial analysis. Determination of nutrients was made.

Station No. →	3619	3620	3621	3622	3623	3625	3626	3627	*3628	3629	3630
72°											
71											
70											
69											
68											
67											
66											
65											
64											
63											
62	0		0	624 8			62.2 12	0			0
61	15		21	35	61.4 50	61.9 42	47	27			39
60	33	609 30 40	43	51	76	83	77	71		60.5 10 -61	68
59	40	42	48	59	82	94	78	75		72	79
58	47	46	56	62	85	100	88	80	58.7 121	74	96
57	56	59	73	81	88	110	110	105	132	78	122
56	65	72	85	93	93	120	134	112	135	107	137
55	85	84	94	102	97	125	139	117	141	139	148
54	95	95	113	125	111	145	161	150	150		150
53	118	104	142	160	117	154	168				
52		113	161	187	123	162	185				
51			210								
50											
49											
48											

TEMPERATURE INVERSIONS

Cruise 226 Date: 11-3-55

Station: 3628

Temp.	Depth
58.7	Surf.
59	20'
60	43
59	92
58	121

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 226 Date: 11-4-55

Location: See corresponding hydrographic stations.

Cruise Description: Nine hydrographic and bacteria stations were occupied in a line extending downcoast from the Orange County sewer outfall. Water and sediment samples were analyzed for nutrients and bacteria. A dye patch, placed in the boil, was followed.

Station No. →	3632	3633	3634	3635	3636	3637	3638	3639	3640													
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63						63.3 5		0- 10	63.1 3													
62	0- 34	0- 30	0- 20	62.9 28	62.9 28	31	62.8 42	27	29													
61	40	36	26	40	44	40	44	39	35													
60	45	41	28	45	50	47	45	46	43													
59		60	40	50	56	50	46	47	44													
58			52	53		51	47		49													
57			54	54		52	49															
56																						
55																						
54																						
53																						
52																						
51																						
50																						
49																						
48																						

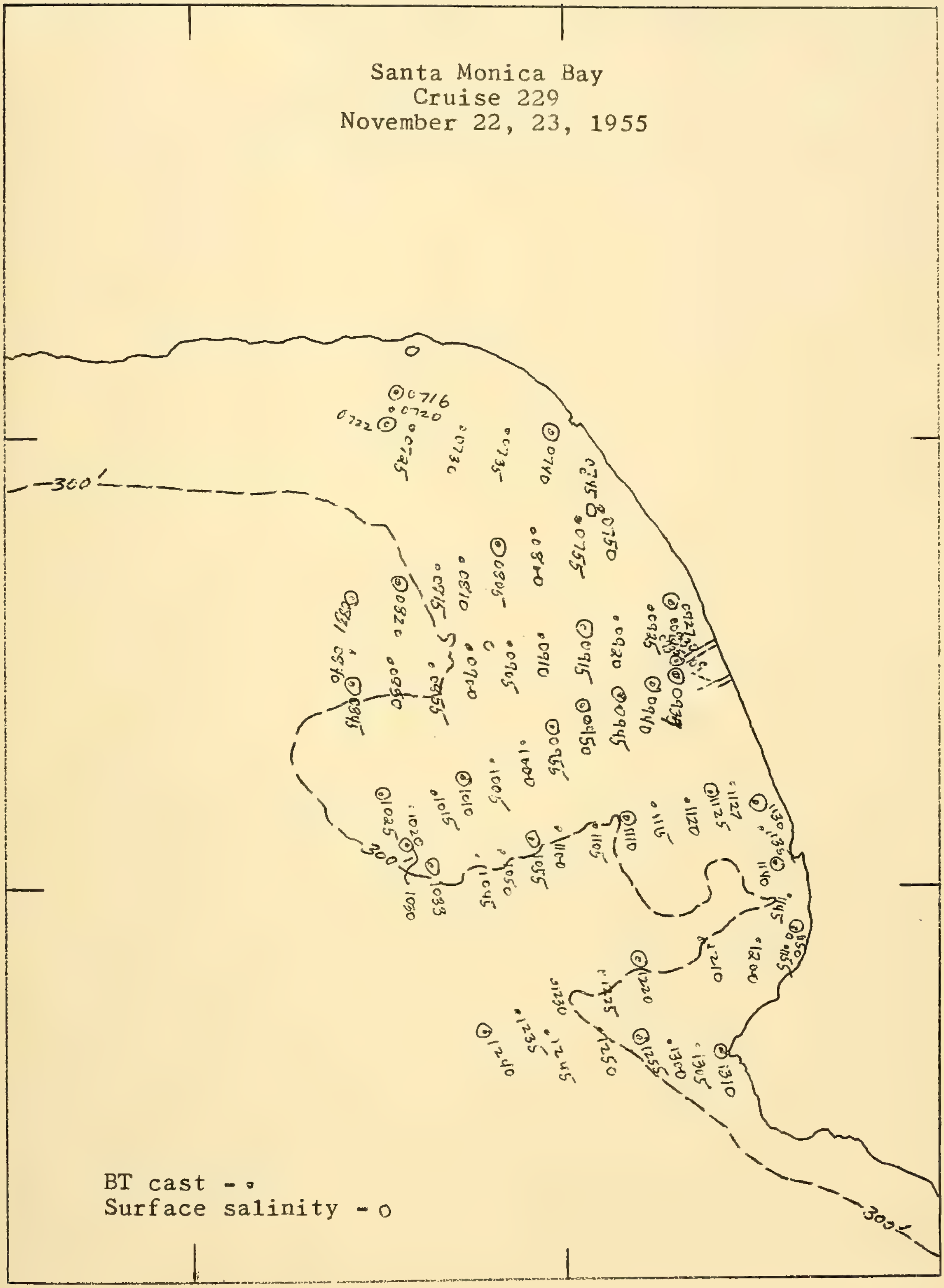
BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 228 Date: 11-17, 18-55

Location: See corresponding hydrographic stations.

Cruise Description: On the 17th, divers and cores were employed in the vacinity of the L.A. County Sewer outfall to determine the extent of the sewage field and bacteria therein. On the 18th, Hydrographic and Bacterial Stations were occupied near the Orange County outfall. Water samples were taken for Bacterial and nutrient study.

Station No. →	3649	3652	3653	3654	3656	3657	3658	3659	3660	3661	3663	3664	3665	3666	3667	3668	3669	3670				
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62												0					0	0				
61	61.3 40		61.2 30	0- 35	61.3 20	0- 40	0- 25	61.3 35		0- 26	61.3 27	30	61.2 5	0- 20	61.4 17	0	25	19				
60	47		65	47	35	46	35	44		59	40	52	18	34	30	20	35	42				
59	48		85	53	43	50	43	50		64	47	60	25	43	38	25	40	49				
58	50		95		48	55	55		0- 40	68	55	67	40	50	50	46	55	52				
57	52		103			61			48				63		59	58		59				
56	55		110						50													
55	85	82	118						52													
54	116	152																				
53	150																					
52																						
51																						
50																						
49																						
48																						



Santa Monica Bay
Cruise 229
November 22, 23, 1955

BT cast - •
Surface salinity - o

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 229

Date:11-22, 23-55

Cruise Description: On the first day of the cruise, water transparency measurements were made using the Hydrophotemeter. In addition, several Bathytherms were obtained. On the second day, a Bathythermograph and surface salinity was run over the entire area of Santa Monica Bay.

Time →	1135	3671	1154	1217	1331	1349	1413	0716	0720	0722	0725	0730	0735	0740	0745	0750	0755	0800	0805	0810	0815	
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60	0- 35	0- 20	0- 40	0- 20																		
59	50	45	85	70	59.4 30	59.5 30	0- 20							0- 30	59.3 35	59.3 25	0- 35		0	0- 40	0- 35	
58	55	50	97	83	38	45	45	58.8 40	0- 40	58.1 35	58.5 55	0	0- 20	40	45	43	60	58.5 64	44	47	37	
57	66	58	100	90	40	50	55	43	49	64	69	52	45		46	45	63	73	53	49	39	
56	73	67	103	95	55	59	60	50	52	68	71	55	48				68	80	63	52	43	
55	83	75	119	115		62	63	55	58	71	75	57	50				75	85	82	60	55	
54	95	87	130	137		70	74	60	65	78	82	65	69					90	95	85	80	
53	105		136	145		75	82	70	70	86	90	72	67					106	112	103	100	
52			142	155			100		90	95	100	81							130	149	142	
51				160			120												148	170	195	
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 229

Date:11-22, 23-55

Time →	0820	0831	0840	0844	0850	0855	0900	0905	0910	0915	0920	*0925	*0927	*0930	0935	0937	0940	0945	0950	0955	1000	1005
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60															0	0	0					
59	0- 40	0- 55	0- 65	0- 55	0- 60	0- 65	0- 55	0- 45	0- 48	0- 38	0- 20	0- 43	59.4 44	0- 5	42	41	44	0- 35	0- 46	0- 35	59.5 65	59.3 65
58	51	62	69	65	78	80	60	55	54	80	50	60	50	46	52	54	65	52	63	65	82	74
57	55	64	71	72	83	90	63	56	59	95	55	63		50	57	58	73	55	82	74	87	76
56	61	68	80	73	90	100	66	57	61	102	78	66		55	62	64	75	68	100	78	89	80
55	75	81	102	96	95	108		58	72	110	88						78	100	116	80	94	92
54	90	94	109	112	110	125		74	112	123	100							110	144	110	102	120
53	119	119	130	135	125	131		95	131	133								120	147	135	125	127
52	148	140	155	169	141	145		140	141									130	151	150	145	136
51	190	195	190	195	172	165		155	162										165	169	171	162
50					205	210		190														
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 229

Date: 11-22, 23-55

Time →	1010	1015	1020	1025	1030	1038	1045	1050	1055	1100	1105	1110	1115	1120	1125	1127	1130	1135	1140	1145	1150	1153
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																			0			
60							0									0	0	60.5 12	19	60.7 10	0	0
59	59.5 65	59.5 85	0- 70	59.3 108	0- 85	0- 47	60	59.3 5/60	59.5 70	59.3 60	0- 50	0- 40	59.5 50	59.8 57	59.8 45	38	40	44	41	42	50	40
58	75	94	82	96	95	52	70	84	86	91	70	57	55	64	50	41	44	47	48	56	55	50
57	80	98	89	100	97	55	75	96	93	93	89	72	60	67	52	45	48	50	53	60	64	58
56	84	100	91	106	100	60	84	100	94	96	97	93	69	72	61	55	58	58		63	71	
55	93	113	92	118	109	70	102	104	109	112	108	112	79	76	72					68		
54	130	123	112	136	130	83	125	125	135	144	135	123	90	78								
53	137	139	145	160	170	165	170	139	165	164	150	131	105	83								
52	145	160	165	175	192		205	152	196	180	165	145	130	90								
51	165	175	195	195				187		205	185	195	170									
50	185	190																				
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 229

Date: 11-22, 23-55

Time →	1155	1200	1210	1220	1225	1230	1235	1240	1245	1250	1255	1300	1305	1310	1316	1320	1325					
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61									0	0			0			0						
60	0	0	60.5 10	0	60.5 7	0	0	0	9	10	60.4 10	60.8 14	10	59.8 10	0	5	0					
59	47	55	86	55	55	48	50	48	50	48	44	60	35	28	5	15	10					
58	50	61	100	79	79	69	67	70	65	63	60	80	70	60	15	22	26					
57	54	66	108	95	100	74	70	80	71	68	72	94	84	78	40	25	40					
56	62	76	120	100	110	97	80	83	80	80	100	119	88	110	65	41	50					
55		85	130	121	117	116	100	92	101	119	120	127	98	138		98	79					
54		93	135	157	155	150	125	120	129	148	135	134	128			102	88					
53		105	143	175	185	173	165	169	165	175	163	150	140			105	114					
52		157	169	183	195		200	190	195	195	183	185	160									
51			200																			
50																						
49																						
48																						

TEMPERATURE INVERSIONS

Cruise 229

Date: 11-22,23-55

Time: 0925		0927		0930	
Temp.	Depth	Temp.	Depth	Temp.	Depth
59	Surf.	59.4	Surf.	59	Surf. - 5′
59	10′	60	25′	60	10
59	43	59	44	59	38

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 233 Date: 12-19, 20-55

Location: See corresponding hydrographic stations.

Cruise Description: Both days were spent in the vicnity of the Orange County Sewer Outfall using dye marker to trace portions of the sewage field. Water samples were obtained for bacteria and nutrient determinations. Hydrophotometer and Plankton Casts were made at each station.

Time →	3738	3739	3740	3742	3743	3744	3745	3746	3747	3748	3751	3752	3753	3754	3755	3756	3757	3758	3759	3760	3761	
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60																						
59																						
58																					58.5 10	
57		57.2 15	0	0	0	57.2 35	57.1 30	57.1 25	0	0	57.8 55	57.5 35	57.5 46	57.9 40	57.2 30	57.8 30	57.8 36	57.9 68	57.5 35	57.5 25	+5	
56	56.8 60	60	60	60	58	57	60	81	65	65												
55																						
54																						
53																						
52																						
51																						
50																						
49																						
48																						

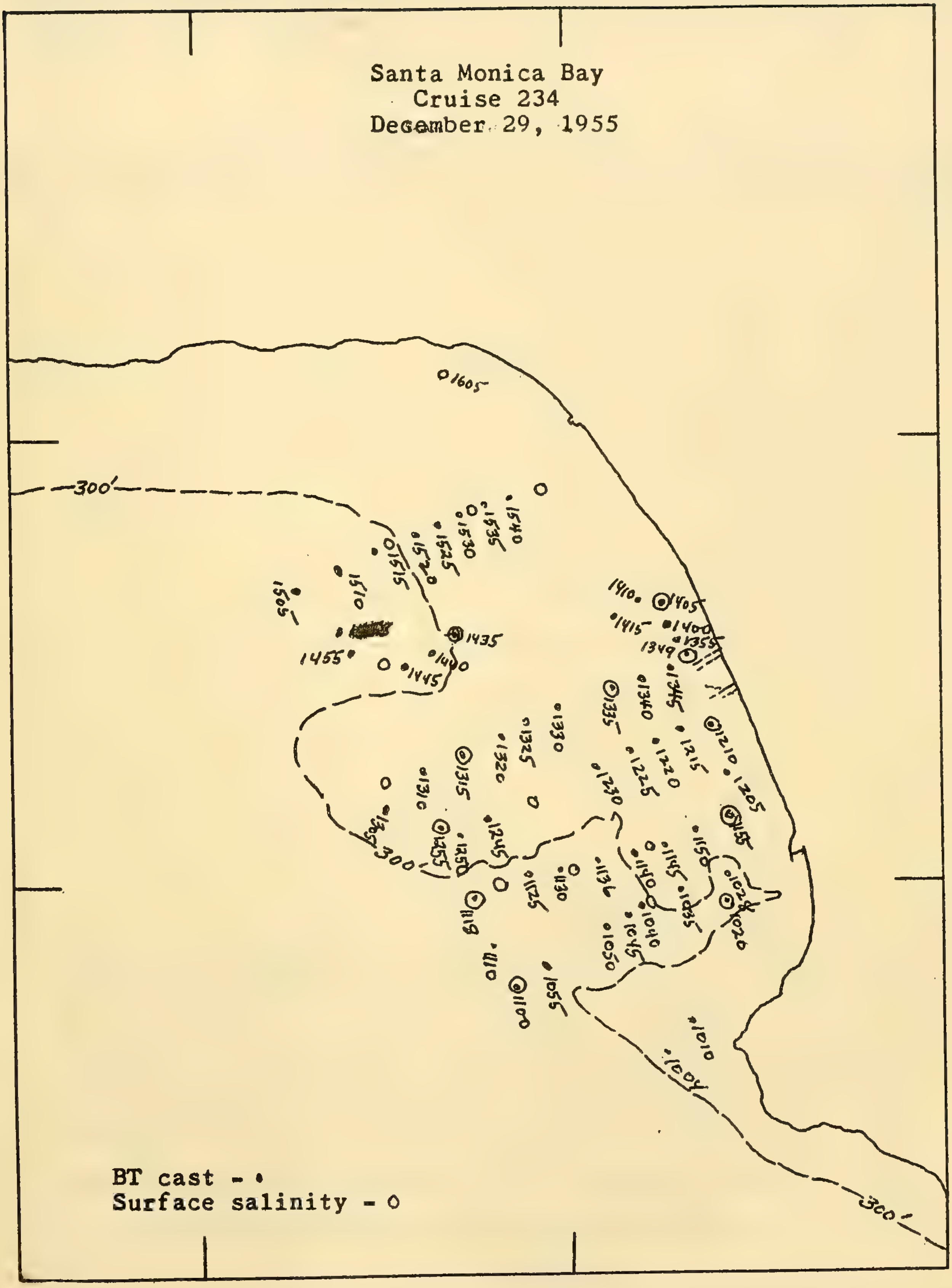
APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 233

Date: 12-19, 20-55

Time →	1536	1545	1555	1605	1615	1625	1641	1648	1149	1159	1244	1255	1300	1305	1312	1319						
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60																						
59																						
58			0	0- 39	0		0- 20		0	0	58.5 35	58.5 15	58.3 15	58.3 15	58.3 15	0						
57	57.2 10	0	48	55	55	57.5 23	84	57.5 30	20	50	65	90	102	73	62	35						
56	60	46	55	86	90	55	130	70	60		80	98	110	88	88	61						
55	66			108	115	115	137	85				110	126	121	98							
54				115	135	130	146	95				150	135	135	105							
53				145	160	150						160	160	141								
52						160							175	156								
51																						
50																						
49																						
48																						



Santa Monica Bay
Cruise 234
December 29, 1955

BT cast - •
Surface salinity - o

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 234 Date: 12-29-55

Cruise Description: Detailed Bathythermograph traverses were run in Santa Monica Bay normal to the shoreline. In addition, three lines of drift card stations, paralleling the coast, were occupied.

Time →	1004	1010	1020	1028	1035	1040	1045	1050	1055	1100	1110	1118	1125	1130	1136	1140	1145	1150	1155	1205	1210	1215
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60																						
59																						
58								0				58.3 65	58.5 1550	0- 55	0- 60	58.5 73						
57	57.5 78	57.5 60	57.5 65	57.5 70	57.5 66	57.7 90	57.7 50	95	57.5 98	57.8 100	57.6 88	89	88	80	83	96	57.9 80	57.5 65	57.5 50	57.5 30	57.5 35	57.5 50
56	125	97	107	135	83	100	75	103	108	108	92	109	96	102	94	111	101	125	62	42		62
55	138	118	125	147	122	116	134	130	120	119	104	113	107	114	96	120	115	145	80			
54	145	130	143	165	130	130	154	149	135	130	117	122	111	121	115	150	145	155	90			
53	170	192	155	172	175	155	173	163	145	135	135	144	125	130	174	190	185					
52			175	193	198	195	190	195	160	148	180	162	150	180	200							
51									200	188	200	190	190									
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 234

Date: 12-29-55

Time →	1220	1225	1230	1245	1250	1255	1305	1310	1315	1320	1325	1330	1335	1340	1345	1349	1355	1400	1405	1410	1415	
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60																						
59																						
58			0- 70	58.5 80	58.5 65	58.5 67	58.5 90	58.5 78	58.5 65	58.5 85	58.2 70	0- 48										
57	57.5 80	57.7 95	110	90	80	73	95	83	72	89	95	115	57.7 105	57.5 78	57.5 65	57.5 1540	57.5 40	57.5 38	57.2 35	57.5 49	57.5 78	
56	95	120	115	100	92	78	100	90	85	100	100	129	119	95	77		50	45	45	60	85	
55	103	140	128	118	101	84	110	100	100	130	120	137	134	108	85					70	95	
54	113	150	141	125	116	100	115	125	140	155	130	144	150	123								
53		166	165	155	145	138	143	155	165	171	154	166										
52			185	180	165	168		185	183	180	179	187										
51						200																
50																						
49																						
48																						

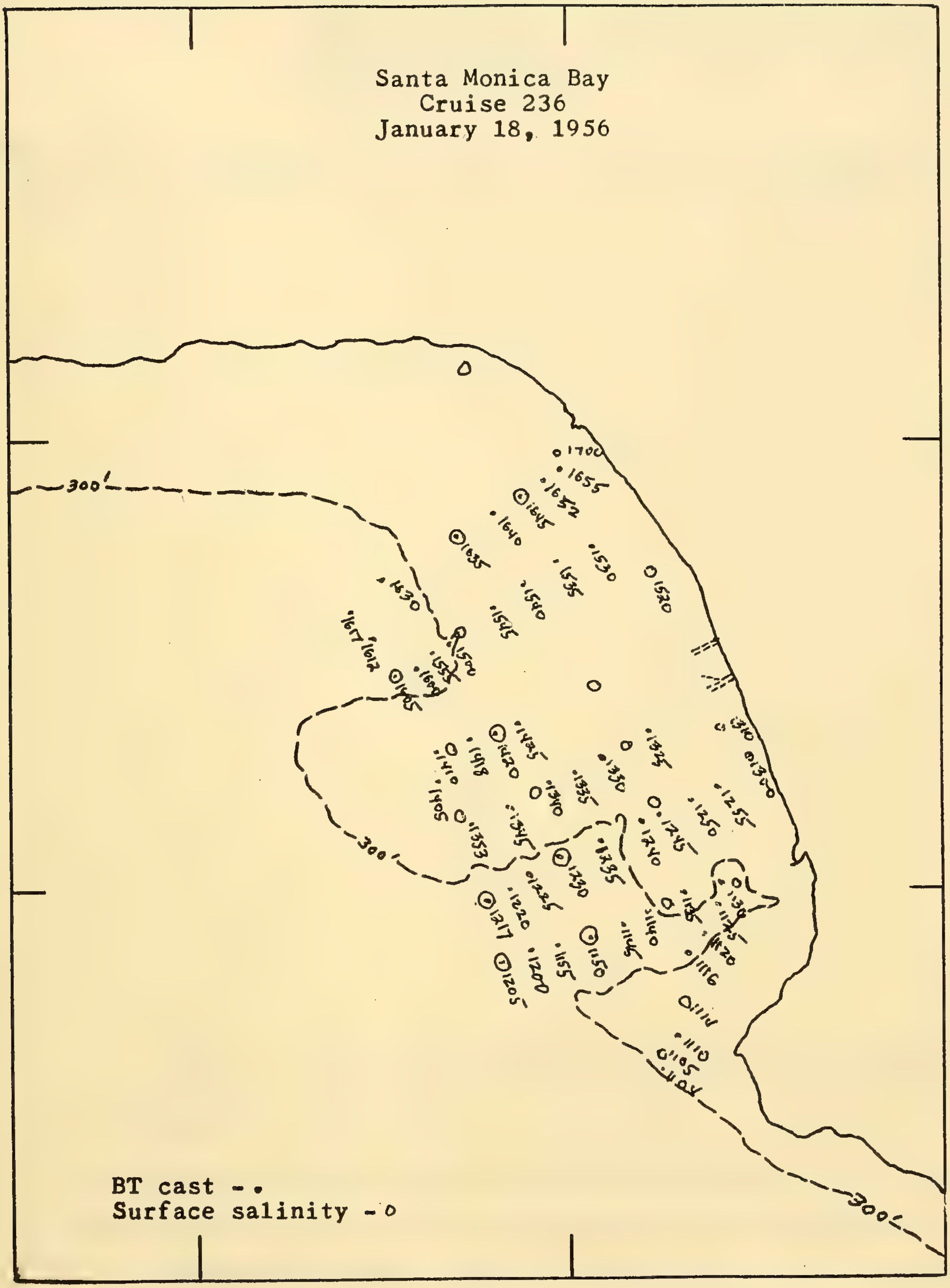
APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 234

Date: 12-29-55

Time →	1435	1410	1445	1455	1458	1505	1515	1520	1525	1530	1535	1540										
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60																						
59																						
58			0	0																		
57	57.8 50	57.8 63	75	45	57.5 16	57.5 42	57.2 60	57.5 60	57.2 33	57.2 45	0- 30	0- 55	0- 35									
56	55	71	80	57	47	56	70	70	65	60	80	95	60									
55	65	75	85	65	97	58	73	73	75	73	88	100										
54	70	76	90	74	122	70	77	75	78	85	123											
53	105	95	105	95	150	85	95	100	90	115												
52	147	110	130	112		120	129	145	115	150												
51	165	175	185	175		195	185	190	190													
50																						
49																						
48																						



Santa Monica Bay
Cruise 236
January 18, 1956

BT cast - •
Surface salinity - o

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 236 Date:1-18-56

Cruise Description: Bathytherms were made along six profiles normal to the coast of Santa Monica Bay. Surface water samples and temperatures along the run were obtained, and fathograms recorded. 490 Drift cards were released.

Time →	1104	1110	1116	1120	1125	1130	1135	1140	1145	1150	1155	1200	1205	1210	1217	1220	1255	1230	1235	1240	1245	1250
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60																						
59																						
58																						
57																						
56																						
55			55.2 5	55.2 15	0	0	55.2 5	0	55.4 30	55.2 20	55.2 12	55.4 35	55.5 12	55.2 20	55.3 30	55.5 38	55.5 35	55.5 40	55.2 40	55.[illegible] 40	0-[illegible] 40	0
54	0	54.4 10	48	45	32	40	47	60	72	57	62	80	55	65	58	65	74	70	76	80	75	30
53	118	105	51	52	42	48	71	63	75	62	67	85	87	68	60	70	77	78	85	90	84	40
52	160	150	120	116	83	92	85	98	95	75	85	100	108	80	98	87	100	90	96	120	108	80
51			230	195	185	190	190	185		200		188	180	140	200			205	140	200	145	155
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 236

Date: 1-18-56

Time →	1255	1300	1325	1330	1335	1340	1345	1353	1405	1410	1418	1420	1425	1505	1530	1535	1540	1545	1550	1555	1600	1605
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60																						
59																						
58																						
57																						
56									0	56·3 10									0	0	56·5 10	0
55	0	0	0		0	0	55·3 5-35	55·5 10-25	70	100	0	0- 40	0			0	0	55·5 7	25	60	70	50
54	50	34	50	54·8 50	80	85	80	48	93	122	100	95	90	0- 40	54·8 35	35	70	90	75	70	80	75
53	70	40	60	58	93	100	92	80	135	145	125	115	105			50			100	85	85	85
52	80		84	80	110	115	110	100	150	155	135	125	114						113	114	105	105
51			130	135		155	160	160	185	185	155	155	150						145	150	160	128
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 236 Date: 1-18-56

Time →	1612	1617	1630	1635	1640	1645	1652	1655														
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60																						
59																						
58																						
57																						
56	56.5 10	0	0																			
55	55	50	65	55.5 70	55.5 30	0	0	0														
54	80	90	110	125		80	20	20														
53	88	95	112	135		105	50															
52	115	115	140			120	75															
51	140	130				140	90															
50	240	230																				
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 237 Date: 2-2, 3-56

Location: See corresponding hydrographic stations.
Cruise Description: Both days were spent obtaining water samples for Bacterial and Nutrient determinations in the vicinity of the L. A. County Sewer outfall. A dye patch placed in the boil of the nearshire outfall was followed on both days.

Station No. →	3879	3880U	3880D	3881	3882	*3883	*3884	3885	3886	3887	3888	*3890	3891	3892	3893	3894	3895	3896	*3896-2			
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60																						
59																						
58																						
57																						
56																						
55	55·7 80	552 12	55·2 45	55·3 62	55·2 45	55·5 60	55·5 60	55·4 70	558 70	56·5 65	55·8 90	0- 45	0- 80	0- 90	0- 80	55·5 70	0- 55		0- 30			
54	90	22	60	80	70	70	75	107	110	128	103	150	130	125	100	95	100	0- 50	95			
53	115	33	80	85	90	125	135	142	140	160		155	142	138	127	115	130	88	122			
52	127	110	110					155				163	160	160	146	130		100	130			
51												180	190	190	178	170			155			
50														210	208	225						
49															300	370						
48																						

Cruise 237

Date: 2-2,3-56

Station: 3883		3884		3890		3896-2	
Temp.	Depth	Temp.	Depth	Temp.	Depth	Temp.	Depth
55.5	Surf.	55.5	Surf.	55	Surf.	55	Surf.
55	60′	55	60′	55	45′	55	30′
54	70	54	75	55.5	80	55.5	65
54	80	54	100	55	120	55	75
55	88						
54	95						

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 238 Date: 2-12-56

Location: See corresponding hydrographic stations.

Cruise Description: A dye patch, released into the inner sewage boil at Whites Point, was followed for 6 hours. Ten hydrographic, bacteria, and hydrophotometer stations were occupied in a line paralleling the coast. Water samples were obtained for Bacteria and Nutrient determination and Plankton and Bathythermograph casts were made at each station.

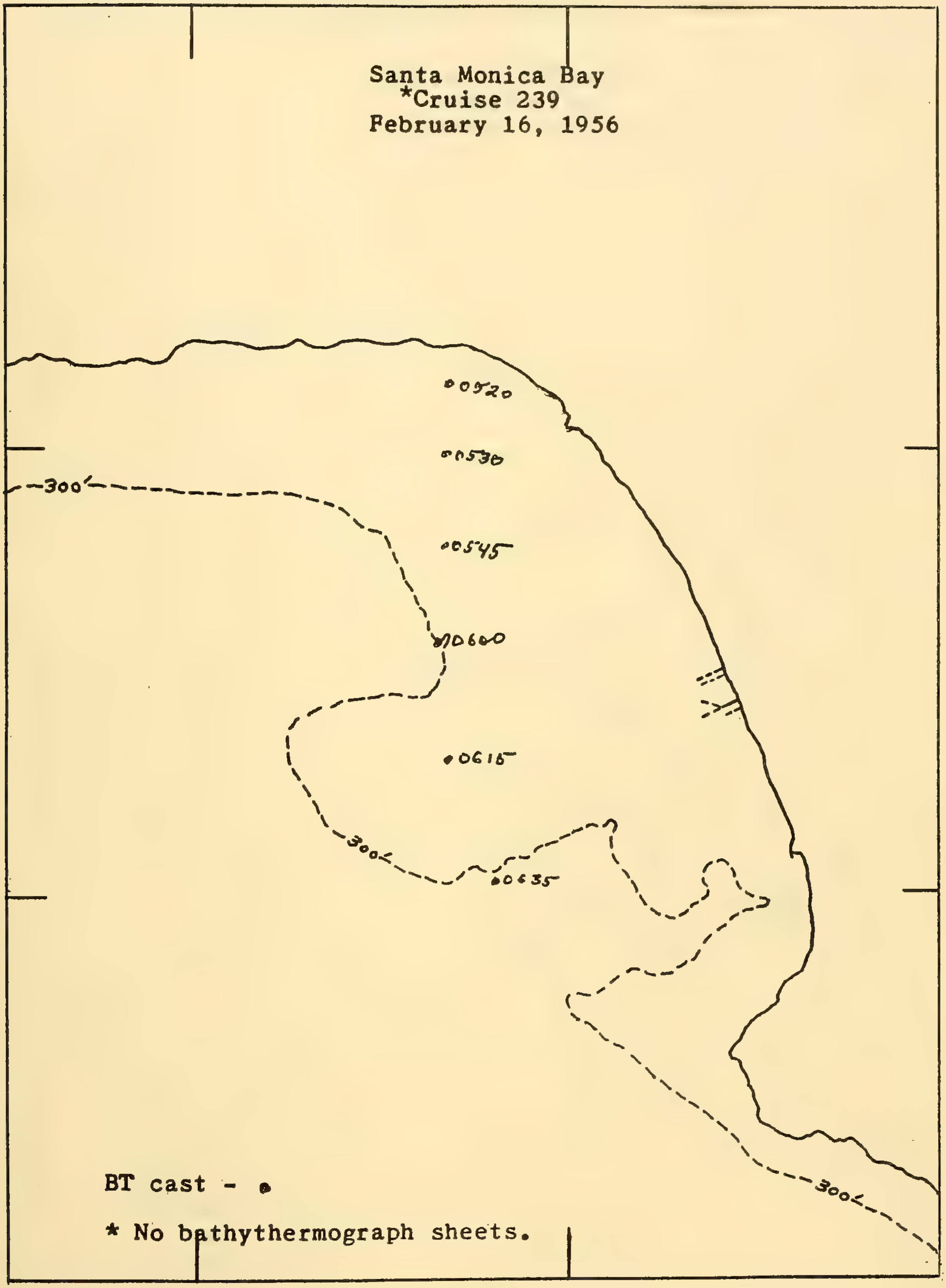
Station No. →	*3898	3899	3900	*3901	3902	*3903	*3904	*3905	3906	*3907
72°										
71										
70										
69										
68										
67										
66										
65										
64										
63										
62										
61										
60										
59										
58										
57										
56										
55	55.2 60	55.1 70	55.2 80	55.2 90	55.3 124	55.2 125	55.2 120	55.5 125	55.4 90	55.5 105
54	95	80	95	100	132	133	133	134	135	145
53	123	120	130	142	155		165		155	160
52	155	155	160	170						
51										
50										
49										
48										

TEMPERATURE INVERSIONS

Cruise 238 Date: 2-12-56

Station: 3898		3901		3903		3904		3905	
Temp.	Depth	Temp.	Depth	Temp.	Depth	Temp.	Depth	Temp.	Depth
55.2	Surf.	55.2	Surf.	55.2	Surf.	55.2	Surf.	55.5	Surf.
56	15'	56	25'	56	35-90'	56	50-75'	56	60-70'
55	29	56	75	55	125	55	120	55	125
55	60	55	90						

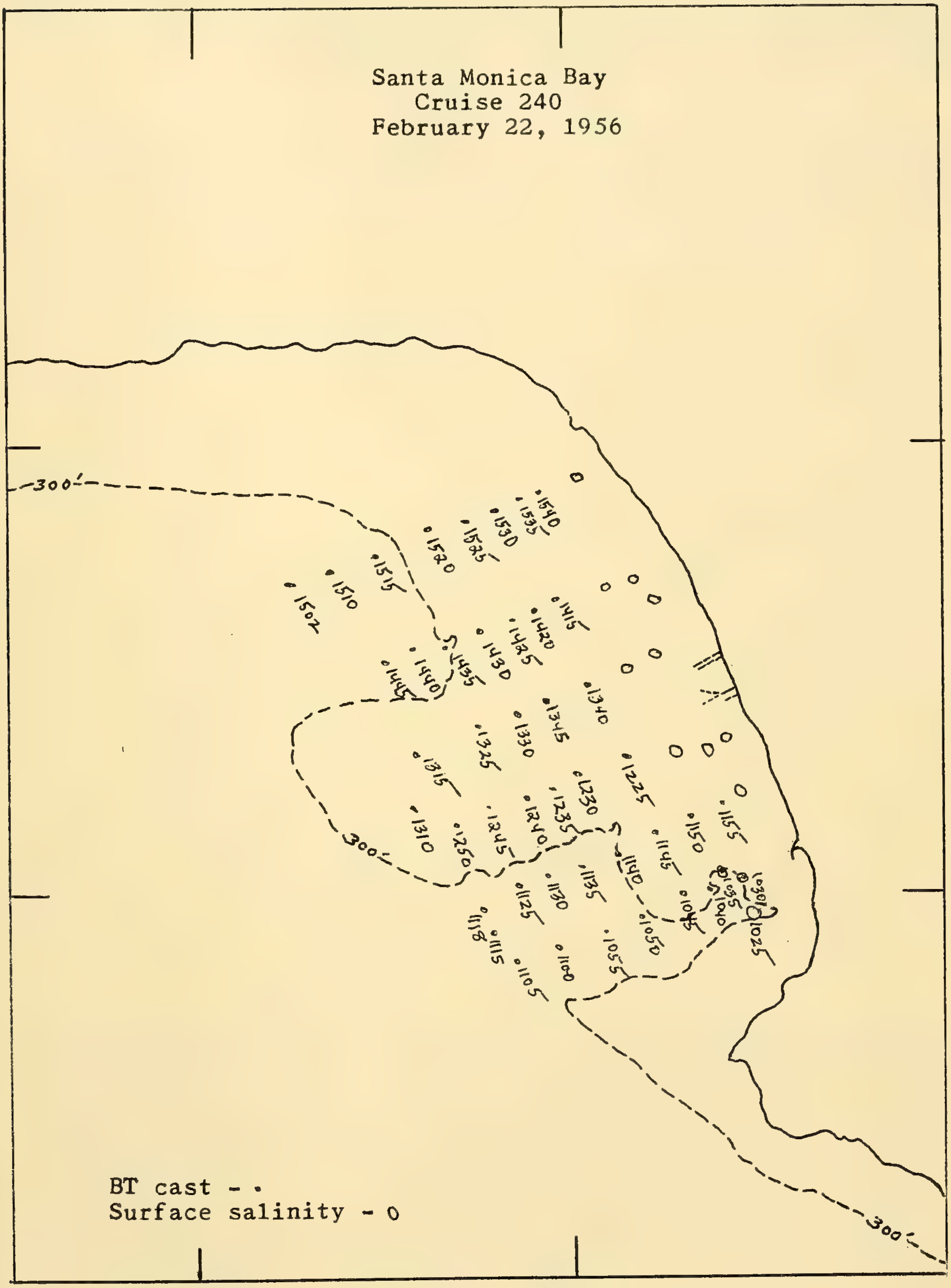
Station: 3907	
Temp.	Depth
55.5	Surf.
56	60-80'
55	105



Santa Monica Bay
*Cruise 239
February 16, 1956

BT cast - •

* No bathythermograph sheets.



Santa Monica Bay
Cruise 240
February 22, 1956

BT cast - •
Surface salinity - o

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 240 Date: 2-22-56

Cruise Description: Six Bathythermograph lines were run perpendicular to the shore of Santa Monica Bay. Drift cards were released at various points on the traverses and surface water samples were collected at drift card stations for salinity determinations.

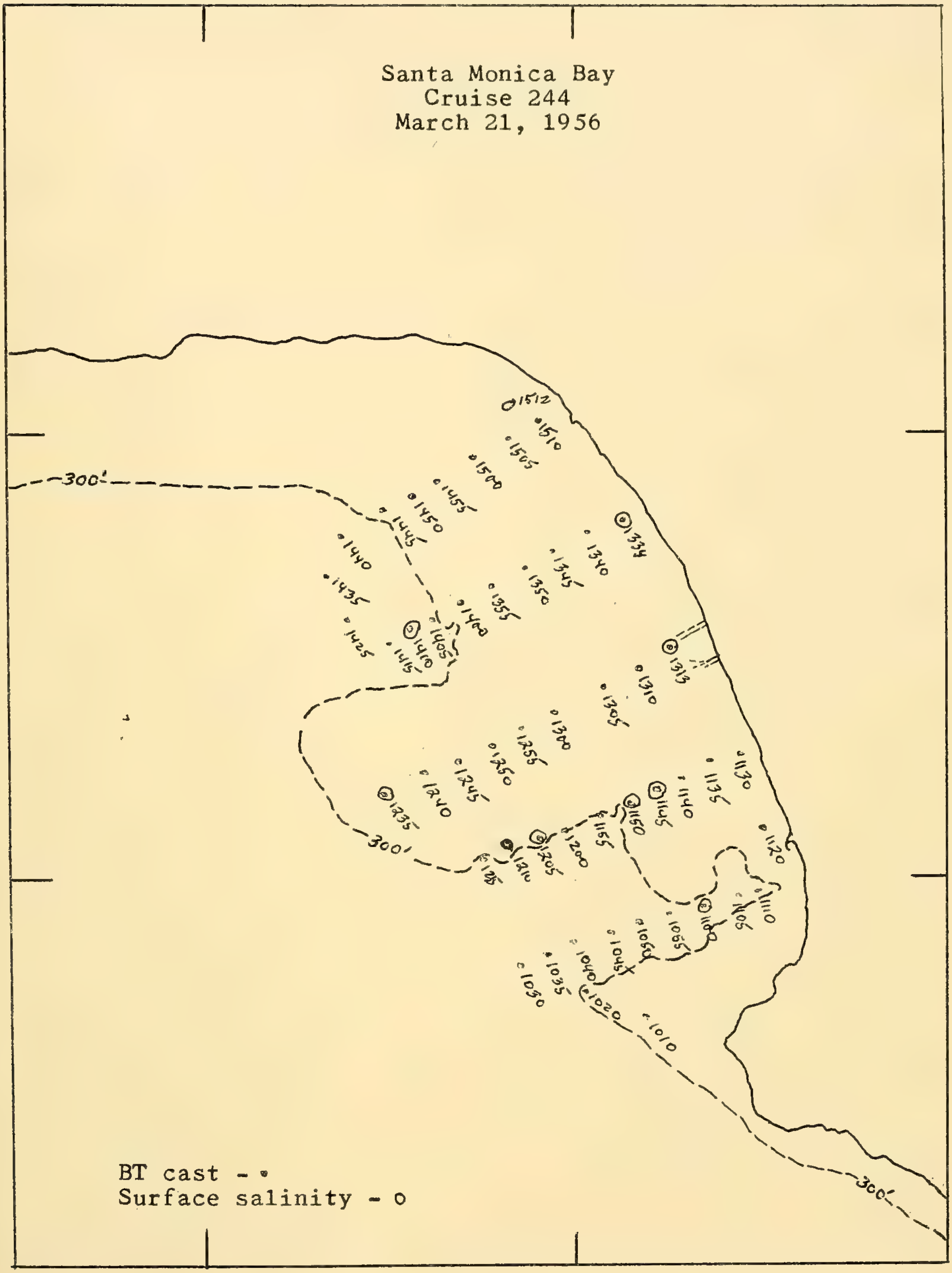
Time →	1040	1045	1050	1055	1100	1105	1115	1118	1125	1130	1135	1140	1150	1155	1225	1230	1235	1240	1245	1250	1300	1315
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60																						
59																						
58																						
57																						
56																						
55	55.5 42	55.5 60	55.5 67	55.5 60	55.1 57	55.5 60	55.5 65	55.5 76	55.5 80	55.5 70	55.5 65	55.5 60	55.1 35	0- 20	55.2 60	55.5 80	55.5 80	55.5 65	55.5 62	55.5 85	55.5 80	55.5 70
54	65	73	85	80	75	80	75	83	90	88	85	80	85	100	102	105	100	85	95	100	97	86
53	105	100	92	90	86	90	90	92	105	114	120	120	114		135	125	115	92	103	112	102	91
52		150	130	120	109	110	106	105	145	145	140	145	142		155	150	135	110	120	125	125	112
51		180	160	172	170		170	168	215	210	185	175	158			180		175	190	200	180	
50			235	220	230		263	265	270	280	265	265										
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

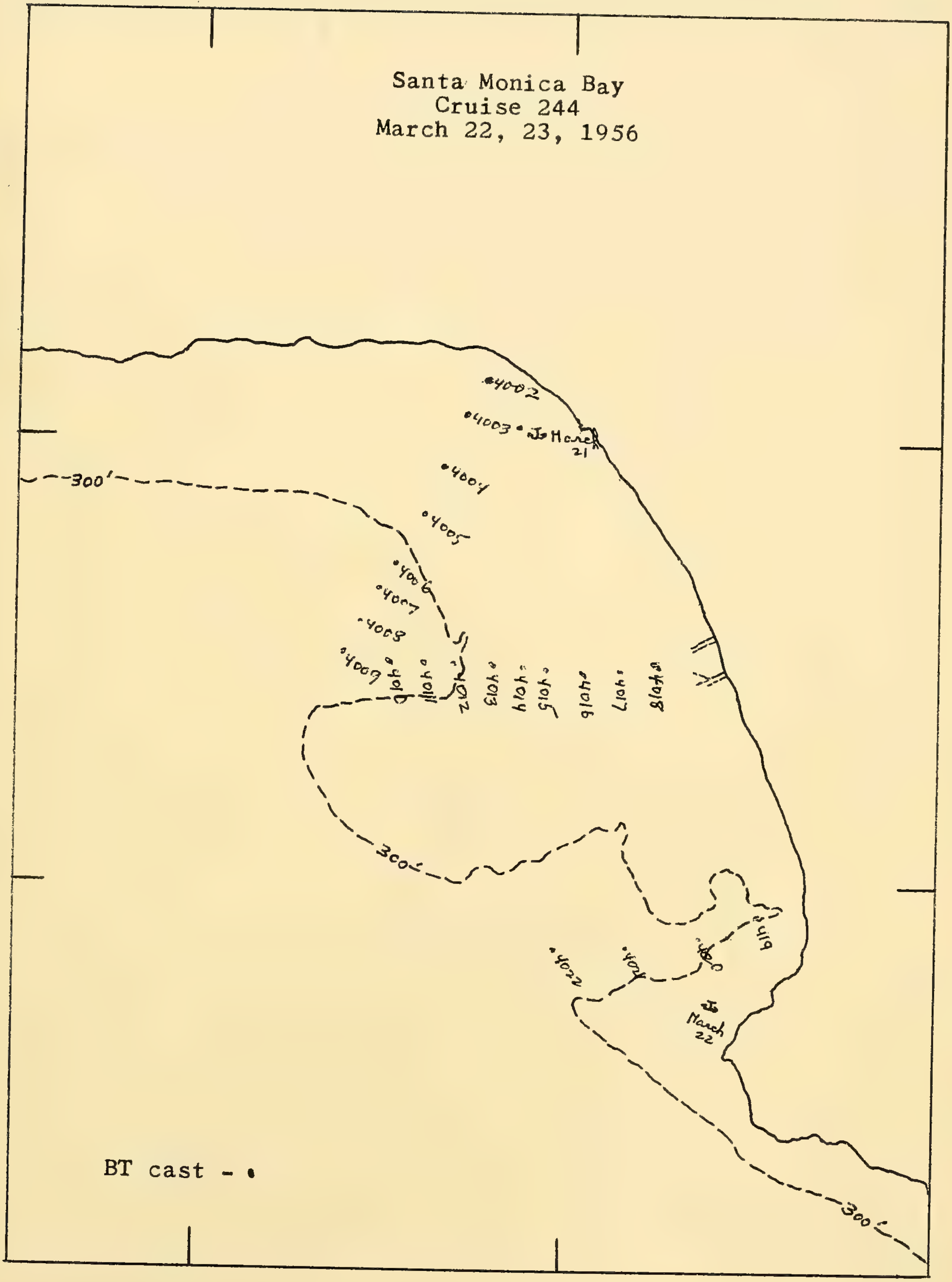
Cruise Number 240 Date: 2-22-56

Time →	1325	1330	1335	1340	1415	1420	1425	1430	1435	1440	1445	1455	1502	1510	1515	1520	1525	1530	1535	1540		
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60																						
59																						
58																						
57																						
56	56.5 6																					
55	20-50	0-60	0-50	0-20	0	0-10	0-10	0-10	0	0	0	0	55.2 5	55.5 20	0-20	0-20	0-10	0	55.5 5	0		
54	90		97	84	105	90	90	85	90	80	83	82	65	60	75	85	85	65	95	65		
53	110		124			110	98	105	104	95	95	94	90	92	105	105	110	95				
52	125		130			135	135	135	131	116	115	102	95	105	125	125	128	120				
51							150	152	164	170	175	175	165	155	160	165	145					
50									245													
49																						
48																						



Santa Monica Bay
Cruise 244
March 21, 1956

BT cast - •
Surface salinity - o



Santa Monica Bay
Cruise 244
March 22, 23, 1956

BT cast - •

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 244 Date:3-21-56

Cruise Description: A Bathythermograph Traverse was run over the entire Santa Monica Bay area.

Time →	1010	1020	1030	1035	1040	1045	1050	1055	1100	1105	1110	1120	1130	1135	1140	1145	1150	1155	1200	1205	1210	1215
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60																						
59																						
58																						
57	0- 10	57.3 15	0	57.4 5	57.5 10	57.5 12	57.2 6	57.5 5	57.2 5	57.3 5	57.5 15	57.5 24	57.8 35	0- 20	0	0			0	0	0- 5	0
56	50	23	33	35	25	35	20	15	10	20	30	33	45	35	10	10	56.5 5	56.4 5	7	15	25	20
55	55	50	58	68	50	55	55	60	55	40	40	55		50	50	40	35	25	35	55	70	65
54	65	58	65	75	57	65	65	70	85	75	55			75	75	65	65	70	100	85	90	85
53	89	100	90	90	70	72	68	90	112	95	85			85	95	110	112	108	125	120	105	95
52	120	120	115	115	85	100	115	145	140	120	125				130	130	130	130	145	135	150	125
51	170	155	160	145	140	140	155	165	185	160	165					165	160	170	180	170	175	180
50		225	220		210	230			235	225										245		
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 244 Date: 3-21-56

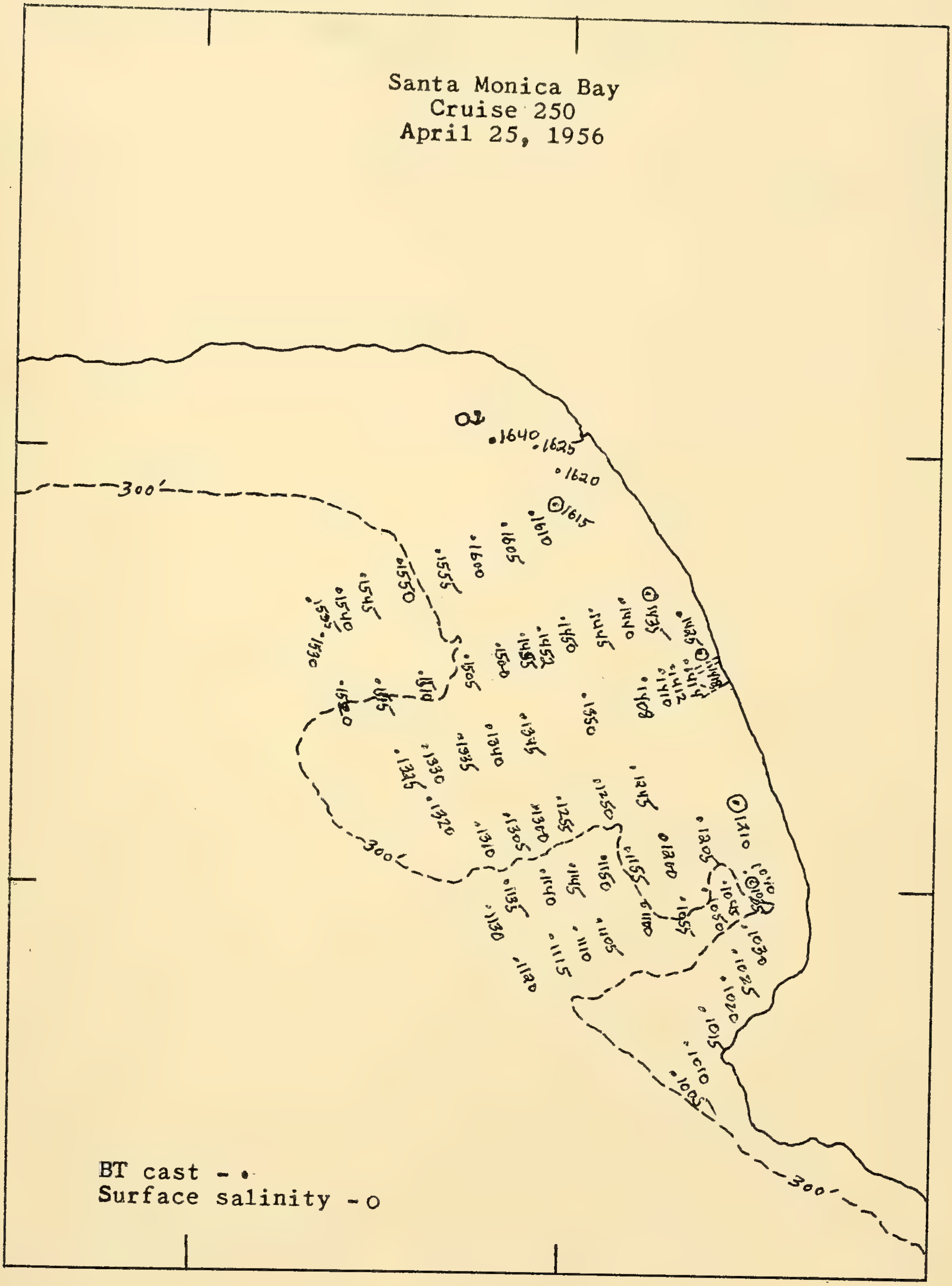
Time →	1235	1240	1245	1250	1255	1300	1305	1310	1313	1325	1334	1340	1345	1350	1355	1400	1405	1410	1415	1425	1435	1440
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60																						
59																						
58									0	0												
57	0	0	0	0	0	0		0	12	30	57·2 5	0				0				0	57·2 5	0- 5
56	15	15	10	10	10	5	56·8 5	30	45	40	40	10	56·9 5	56·2 3	0- 5	5	56·5 5	56·5 5	56·5 15	20	10	8
55	90	100	45	35	45	55	55	60	50	45	45	50	42	40	45	60	50	45	65	50	25	26
54	110	110	90	70	90	85	95	70	58	50		80	80	60		92	90	90	78	80	60	60
53	120	119	100	90	110	100	115	90				90	86	90		107	105	105	100	85	70	85
52	140	144	115	110	135	135							130	110		135	125	129	120	105	80	90
51	190	195	170	170	170	170								157		170	160	165	165	136	105	110
50		215	210	195													235	230		190	170	165
49																						250
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 244 Date: 3-21-56

Time →	1445	1450	1455	1500	1505	1510																
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60																						
59																						
58						58.2 4																
57	0				57.2 5	18																
56	2	0	56.5 5	56.9 5	25	35																
55	15	15	55	25	45	52																
54	45	50	70	45	70																	
53	85	80	85	70	85																	
52	92	93	105	120																		
51	120	130	165																			
50	210	190																				
49																						
48																						



Santa Monica Bay
Cruise 250
April 25, 1956

BT cast - •
Surface salinity - o

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 250 Date: 4-25-56

Cruise Description: The entire day was spent running a Bathythermograph and Drift Card Traverse.

Time →	1005	1010	1015	1020	1025	1030	1035	1040	1045	1050	1055	1100	1105	1110	1115	1120	1130	1135	1140	1145	1150	1155
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62								62.4 5														
61						0	61.2 6	7														
60	0	0			0	7	8	11	60.5 7								0					
59	9	10	59.5 20	59.2 15	8	22	11	20	18	59.5 3	59.2 10	0- 5	59.5 8	59.5 5	59.8 9	59.5 8	15	59.6 8	59.5 8	59.5 5	592 3	59.2 3
58	47	38	42	32	35	40	35	43	40	37	28	20	25	35	46	46	20	23	25	37	12	30
57	69	52	65	41	42	48	50	49	53	49	60	60	85	85	80	85	70	56	70	55	38	50
56	88	56	78	47	53	54	58	65	68	61	68	82	103	115	105	117	125	91	112	96	90	90
55	97	60	82	52	70	60	64	74	74	72	73	100	112	125	115	126	135	114	122	107	120	94
54	107	80	85	60	77	68	72	78	82	92	85	121	127	136	125	134	141	137	126	121	143	96
53	118	95	92	61	87	87	76	81	84	104	128	135	140	151	140	136	156	156	137	132	150	105
52	164	115	101	90	105	108	100	90	98	118	140	155	160	185	195	165	190	200	160	146	152	128
51	200	165	160	145	140	150	150		135	152	151	169	190						190	195	169	166
50						190						200									215	
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 250 Date: 4-25-56

Time →	1200	1205	1210	1245	1250	1255	1300	1305	1310	1320	1325	1330	1335	1340	1345	1350	1408	1410	1412	1414	*1418	1425
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																	63.5 4		0			
62											62.9 4			0			6	62.7 6	5		0	62.3 5
61				0	0					0	5			4	0	0	8	8	9		6	7
60	0	0	60.5 8	6	3		0	0	60.3 7	5	7	0	0	7	8	5	11	10	12	60.5 12	16	10
59	9	15	11	9	6	0- 6	13	22	18	11	12	12	12	18	20	12	12	15	15	22	23	20
58	18	24	20	13	12	23	60	74	44	30	23	22	27	41	46	49	22	20	25	26		43
57	69	55	34	47	33	60	93	100	82	75	70	71	60	80	95	81	37	37	36	37		
56	91	82	51	60	41	81	122	132	132	90	85	98	105	120	120	97	45	48	46	55		
55	94	90	60	83	62	143	132	145	147	156	115	158	150	127		112	55	65	54			
54	97	94	62	96	95	162	153	156	153	167	140	170	156	131		125	85	100				
53	98	101	65	110	126	174	169	170	172	171	143	175	161			143						
52	106	109		126	133	181	185	191	193	180	150	180	176			165						
51	155	135			200		205	220		200	190		190									
50																						
49																						
48																						

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

350

Cruise Number 250

Date: 4-25-56

Time →	1435	1440	1445	1450	1452	1455																
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62	0- 8	62.3 5																				
61	12	7	61.8 5	0																		
60	14	12	6	4	60.2 5	0																
59	17	17	15	7	7	6																
58	27	28	46	43	17	30																
57	49	40	56	90	94	41																
56		46	68	98	106	79																
55		53	80	106	112	108																
54			85	113	127	135																
53				128	135	142																
52						150																
51																						
50																						
49																						
48																						

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 250 Date: 4-25-56

Time →	1500	1505	1510	1515	1520	1530	1535	1540	1545	1550	1555	1600	1605	1610	1615	1620	1625	1640				
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63														0- 5		0						
62						62.5 2							62.8 5	8	62.9 8	21	62.7 8	62.5 8				
61						5	61.8 10	61.2 1				0- 3	6	9	9	24	12	11				
60	0	60.8 6	60.8 6	60.5 5	60.5 6	6	11	4	60.5 3	60.2 6	60.5 3	7	7	10	17	26	14	12				
59	7	10	9	12	9	9	12	7	8	14	5	15	9	12	35	29	26	16				
58	20	17	15	32	20	20	15	13	23	20	12	44	16	30	45	34	42	25				
57	42	46	41	65	43	30	34	38	48	44	32	50	34	67	48	40	46	54				
56	70	60	50	83	64	40	43	44	55	50	52	60	53	78	52		51	63				
55	84	68	58	94	70	48	48	57	62	56	69	67	116	85								
54	94	77	72	109	83	62	60	60	68	83	74	75	120	89								
53	112	97	93	122	124	96	82	85	90	94	95	133										
52	155	153	140	138	141	110	103	124	103	140	160	140										
51	182	205				200	193	195	198	195	193											
50																						
49																						
48																						

TEMPERATURE INVERSIONS

Cruise 250 Date: 4-25-56

Time: 1418

Temp.	Depth
62	Surf.
61	6′
60	7-9
60.5	10-15

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 251 Date: 5-3, 4 - 56

Cruise Description: Two cores were collected along the line of the proposed effluent pipe. Current Floats were dropped at the terminus of the proposed outfall and Bathytherms were taken in the same area.

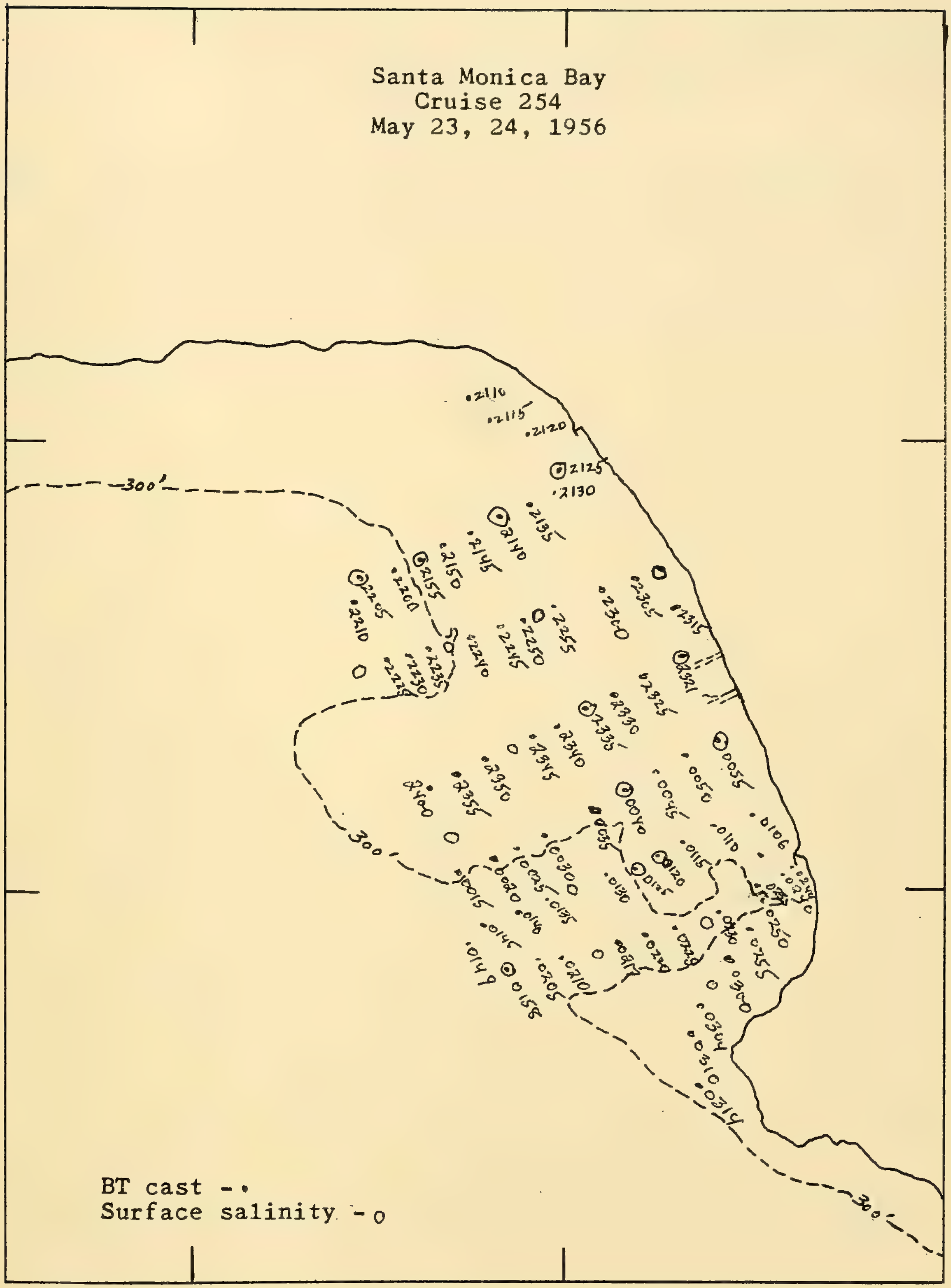
Time →	1625		0925	0930	0935	0940	0945	0950	0955	1000	1005	1010	1015	1040	1045	1050	1055	1100	1105	1110	1115	1120
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60											0											
59	59.5 27			0	59.2 12	59.5 18	59.5 15		0	59.5 22	12	59.5 16	59.5 10									59.5 8
58	42		0	18	21	45	30		10	31	22	25	20	0	0		0	0	58.2 5	0	58.8 8	14
57	50		65	72	64	70	70	51.8 65	65	63	48	50	65	74	40	57.5 10	10	30	60	65	12	50
56	53		74	81	78	87	76	73	73	75	65	64	75	78	85	70	68	70	76	82	68	65
55	58		77	89	85	96	85	80	78	82	75	80	80	82	87	75	80	77	80	85	79	70
54	75		86	103	92	105	100	90	86	97	90	90	92	91	102	88	93	90	95	95	90	88
53	96		102	120	112	125	126	105	100	107	100	98	107	110	112	110	115	112	107	103	100	95
52	132		140	157		175	165	120	135	150	142	140	145	160	137	138	145	140	140	135	128	125
51	195		210			205	220		210						180	180	190	170	195	190		175
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 251 Date:5-3, 4-56

Time →	1125	1130	1135	1245	1250	1255	1300	1305	1310	1315	1320	1325	1330	1335								
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61										0	0	0	0									
60				0	0	60·4 8	60·5 6		60·5 6	13	15	14	10	60·8 7								
59	0			10	12	12	8	59·3 4	15	37	30	30	15	8								
58	14	58·3 4	58·5 4	11	38	13	10	8	22	45	50	45	23	23								
57	20	15	55	48	51	47	25	60	65	60	65	60	70	75								
56	55	73	82	60	57	58	60	75	80	79	78	80	80	85								
55	80	84	86	70	62	64	74	84	90	81	83	85	85	95								
54	87	95	95	75	73	70	83	91	102	100	100	100	98	106								
53	104	102	105	90	85	95	95	109	118	108	110	109	115	120								
52	140	126	130	100	131	135	136	145	150	155	190	150	163	160								
51	190	185	180	175	175	190	195	205	195		220	215		210								
50																						
49																						
48																						



Santa Monica Bay
Cruise 254
May 23, 24, 1956

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 254

Date: 5-23, 24-56

Cruise Description: After completion of work involving the tracing of Radioactive material released through the sewage outfall, a series of Bathythermograph traverses were run throughout the bay accompanied by Drift Card Releases.

Time →	2110	2115	2120	2125	2130	2135	2140	2145	2150	2155	2200	2205	2210	2225	2230	2235	2240	2245	2250	2255	2300	2305
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62	62.5 10	0- 5		0- 10																		0- 7
61	12	18	61.3 22	22	0- 23								0- 23	61.5 55	0- 45	0- 30	61.2 30	0- 32		0- 28	0- 25	18
60	25	33	32	26	41	60.5 25	60.5 33	60.5 37	60.8 48	60.5 58	60.5 48	60.8 46	36	68	63	43	43	47	60.5 43	36	33	29
59	32	39	35	30	44	29	38	47	58	63	70	60	45	72	66	46	45	52	48	45	38	35
58	40	47	42	35	50	32	42	50	61	66	75	63	48	74	67	49	57	56	51	60	50	37
57	47	54	55	42	56	42	48	56	65	68	86	65	50	76	72	60	67	62	62	86	61	44
56	60	62			63	51	62	68	76	75	106	80	60	80	79	76	86	81	71	95	66	50
55					70	56	66	78	92	97	124	85	65	86	96	93	92	95	83	112	71	56
54						78	72	90	108	118	140	109	103	106	114	102	102	106	90	122	76	
53						90	108	98	120	134	148	122	115	121	122	107	122	116	102	129	91	
52							128	106	128	150	163	145	175	170	175	184	150	130	130			
51									190	192	215	210		225								
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 254

Date: 5-23, 24-56

Time →	2315	2321	2325	2330	2335	2340	2345	2350	2355	0000	0015	0020	0025	0030	0035	0040	0045	0050	0055	0101	0110	0115
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62		0– 12								0– 28									62·5 5	0– 20	0– 12	0
61	61·6 18	30	0– 14	0			0– 18	0– 40	61·4 53	80	0– 24	0– 50	0– 18	0– 23	0– 27	0– 30	0– 35	61·5 18	20	22	23	36
60	29	37	32	22	60·5 39	60·9 22	29	70	75	87	52	55	32	32	36	40	48	26	25	25	30	39
59	34	41	39	37	44	29	37	80	80	92	76	65	36	36	40	45	58	49	29	32	31	42
58	36	42	42	39	45	46	47	87	84	100	81	75	38	43	42	49	65	56	36	34	32	56
57	40	44	46	50	49	52	59	92	86	105	86	82	46	45	47	53	74	60	52	36	38	60
56	43	47	49	56	62	58	69	97	90	107	96	90	68	61	65	59	86	62		40	45	65
55	54	49	52	62	69	62	78	106	102	110	107	107	84	76	72	62	130	72		46	48	75
54		52	61	71	74	68	85	124	116	120	119	112	108	86	81	67		80		81	61	87
53			95	111	93	81	100	145	131	125	134	145	125	118	102	100		100			75	102
52					150	151	160	171	163	140	168	190	175	158	155	159					110	127
51							215	210		210					205	200						
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 254

Date: 5-23, 24-56

Time →	0120	0125	0130	0135	0140	0145	0149	0159	0205	0210	0217	0220	0225	0230	0235	0240	0244	0250	0255	0300	0304	0310
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																0- 10		0- 12				
62	0- 10	0- 10						0- 20			0- 5	625 8	62.5 10	62.5 12	62.7 18	12	62.6 19	23	62.6 24	62.7 22	62.5 15	62.2 12
61	20	23	61.5 15	0- 15	61.5 29	61.5 45	61.8 57	75	61.9 55	61.5 37	21	27	22	29	28	15	23	34	45	26	20	13
60	26	30	31	29	40	55	62	82	65	45	38	42	34	42	47	18	33	60	46	28	22	14
59	32	41	36	37	52	56	63	85	74	55	44	44	36	46	57	40	36	62	48	29	24	15
58	40	49	42	43	69	57	65	87	92	66	57	58	40	50	62	43	41	65	49	30	26	22
57	53	54	56	53	76	65	72	91	97	75	60	65	63	54	66	55	55	69	53	35	33	28
56	58	59	63	83	85	88	85	95	102	82	68	68	78	67	71	69	62	87	62	44	41	39
55	74	72	70	88	90	96	108	109	105	87	76	80	81	78	76	72	72	97	82	60	52	65
54	90	83	89	112	122	116	132	116	115	112	103	115	96	96	85	103		112	103	72	65	85
53	140	125	135	152	140	155	142	126	136	156	128	147	135	131	116	122		116	131	116	94	107
52		205	180				185	165	171	178		186	183	168	141	165		132	156	190		
51																						
50																						
49																						
48																						

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 254

Date: 5-23, 24-56

Time →	0314																					
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64																						
63																						
62																						
61																						
60																						
59	59.5 15																					
58	27																					
57	46																					
56	52																					
55	106																					
54	117																					
53																						
52																						
51																						
50																						
49																						
48																						

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 259 Date: 6-19-56

Cruise Description: Drift cards were dropped along traverses in Santa Monica Bay together with BT casts. At the northern end of the Bay, one Hayward Grab Station was occupied for check purposes for the Biological phases of the survey.

Time →	1002	1007	1012	1017-D	1017-U	1022	1027	1032	1037	1042	1047	1052	1057	1102	1107	1117	1122	1127	1132	1137	1142	1147
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65																						
64		0			0	0- 15	0						0	0- 20	64.5 24	64.4 31	0- 33	0- 10				
63	63.8 20	30	63.2 27	0- 35	10	22	25	63.8 29	63.5 40	63.4 40	0- 24	63.8 35	35	40	34	45	38	45	63.5 42	63.5 35	63.5 34	63.4 20
62	26	37	31	37	17	28	33	33	50	47	46	36	42	43	38	58	57	51	48	50	49	47
61	44	41	32	40	26	31	36	43	52	53	47	41	43	46	41	62	63	60	55	54	53	52
60	46	42	35	54	27	40	39	50	57	65	49	43	45	50	45	65	65	62	59	64	70	58
59	56	49	40	65	32	42	44	52	69	78	58	58	52	54	50	70	73	69	66	74	79	65
58	60	56	48	68	33	47	50	57	72	80	74	67	57	60	60	83	86	75	72	90	82	68
57	65	64	53	83	39	55	57	71	79	84	85	75	67	75	72	97	90	80	93	96	85	74
56	78	72	60		60		65	83	93	91	105	90	86	103	95	106	102	85	102	100	89	81
55	87	95	83				71	102	108	110	118	115	108	115	108	120	110	113	107	112	100	95
54		120	107				94	126	125	128	141	127	119	121	118	140	144	143	129	132	120	112
53		153	140				120	140	152	145	158	145	133	143	136	149	160	152	149	150	136	142
52		175					152	170	180	170	179	155	152	165	156	175	172	173	174	169	170	164
51		200					200		220	200	215	205	200		215	220	210	200	210	195		190
50																						
49																						
48																						

$\underbrace{\text{1022 – 1047}}$ subtract 5 ft.

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 259

Date: 6-19-56

Time →	1152	1157	1207	1212	1217	1222	1227	1237	1239	1242	1247	1252	1257	1302	1307	1312	1317	1322	1327	1332	1337	*1342
72°																						
71																						
70																						
69																						
68																						
67																						
66																						
65		0																				
64	0- 20	29	0		0	0	0		0	0- 5	64.2 8	64.1 6	0			0				0	64.7 10	64.5 23
63	40	38	43	63.5 55	30	20	25	63.9 44	49	43	42	50	40	632 10	633 15	20	63.8 21	635 25	635 34	30	23	35
62	48	48	50	60	45	35	45	54	55	55	60	57	50	56	59	57	51	43	52	50	44	50
61	53	52	51	63	48	45	50	59	65	64	64	58	55	58	64	60	57	60	57	54	55	54
60	56	53		66	65	46	57	64	67	65	65	61	58	62	65	65	62	67	67	56	63	58
59	65	60		67	68	72	60	65	70	70	67	69	68	65	72	74	69	69	68	62	68	64
58	70	65		69	70	80	64	68	74	77	77	79	75	71	76	84	70	71	75	70	71	
57	76	67		75	72	83	102	69	83	82	86	86	80	74	84	88	73	78	82	75	80	
56	85				75	86	109	75	88	89	92	93	92	87	92	92	88	85	98	82	92	
55	100				93	93	112	125	125	102	105	107	106	95	102	107	100	105	105	96		
54	112				117	107	126	128	145	138	133	131	128	107	115	125		112	125	115		
53	124						154	140	155	164	165		165	137	134	148		155	150	148		
52								160	172	182	185		193	180	173				170			
51								205	200	215												
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 259 Date:6-19-56

Time →	1352	1400	1405	1415	1420	1425	1430	1440	1450	1447	1505	1510	1515	1520	1525	1530	1535	1540	1545	1550	1555	1100
72°																						
71																						
70																						
69																						
68																						
67								0									67.3 5					
66	0- 10	0					66.5 10	15	66.4 5	66.5 10	66.5 4	0					12	66.2 4	0		66.2 16	66.5 8
65	12	13	0		0	65.5 15	15	17	15	18	12	10	65.2 25	0- 30	65.4 5	65.5 14	19	17	17		25	21
64	15	16	14	64.5 13	21	22	19	19	21	19	22	25	37	37	18	16	21	19	20	18	28	30
63	34	30	22	20	28	25	21	21	23	23	27	26	38	39	26	29	45	26	28	25	29	34
62	45	45	35	25	36	30	25	27	26	24	30	27	40	47	39	32		42	29	30	37	46
61	50	50	40	40	43	36	35	34	30	31	34	39	42	52	41	37		45	35	40	43	47
60	52	55	44	43	50	43	45	42	37	36	39	52	53	53	44	40			44	44	45	49
59			45	48	58	55	50	43	42	38	48	57	55	55	46	44			47	47	49	52
58			52	54	60	67	54	45	45	40	50	60	63	57	48	55			53	54	51	54
57			60	60	70	77	61	50	51	48	57	68	66	62	56	73				60	61	61
56			72	72	76	88	79	55	63	54	67	72	69	64	74					69	74	67
55				89	82	94	92	80	72	59	75	79	78	77	100					90	89	75
54				100	100	109	108	98	89	77	83	92	97	110							117	105
53				129	116	124	128	122	110	100	114	145	146	130								
52					178	168	175	170	159	151	187											
51																						
50																						
49																						
48																						

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 259

Date: 6-19-56

Time →	1605	1610	1617	1622	1627	1640	1650															
72°																						
71																						
70																						
69																						
68																						
67																						
66	66.5 15	66.5 7																				
65	20	20	65.5 20	65.5 25	65.5 14	65.3 12																
64	25	24	29	33	25	21	64.5 20															
63	32	28	35	36	33	23	32															
62	37	29	39	46	38	26	35															
61	40	31	45	49	45	33	45															
60	45	39	54	53	50	41	55															
59	47	44	55	54	51	53	61															
58	50	48	60	57	55	69	64															
57	59	55	63	60	66	74	70															
56	70	65	70	70	85	86																
55	80	73	90	97	102	105																
54	104	92	124	123	122	130																
53	165	170	170	155	145	155																
52					210																	
51																						
50																						
49																						
48																						

TEMPERATURE INVERSIONS

Cruise 259

Date: 6-19-56

Time: 1342

Temp.	Depth
64.5	Surf.
65	10′
65	14
64	15
64	20
64	23

APPENDIX TO CRUISES

BATHYTHERMOGRAPH TRAVERSES - SANTA MONICA BAY

Cruise Number 260 Date: 6-28-56

Cruise Description: Lobster traps were set out in Santa Monica Bay, followed by current floats.

Time →	1159	1205	*1210	1215	1220	1238	1251	1257	1305	1314	1320	1330	1344	1350	1400	1409	1418	1420				
72°																						
71																						
70																						
69																						
68										0		0	0	0		0	0	68.5 5				
67	0	0		67.5 5	67.5 5	67.5 3	67.2 6	67.1 4	67.5 5	8	67.5 4	10	12	20	67.5 20	15	19	12				
66	6	13		10	12	10	25	25	16	25	13	19	20	25	27	25	35	20				
65	28	40	65.2 18	25	20	36	45	38	30	48	21	30	22	28	29	35	43	29				
64	37	48	39	55	28	46	53	45	35	52	32	34	39	33	36	40	49	35				
63	40	58	56	63	33	62	59	54	39	57	39	38	49	45	43	46	54	40				
62	48	65	65	70	39	85	65	58	52	65	43	41	54	50	47	49	55	44				
61	58	70	74	74	43	90	71	63	60	70	46	44	57	58	50	50	56	47				
60	64	77	80	77	46	92	76	67	79	74	50	50	59	65	57	51	57	49				
59	72	86	86	80	48	95	82	75	83	77	58	58	61	72	65	52	58	51				
58	96	95	92	84	50	100	88	84	87	84	62	63	64	80	70	70	60	56				
57	114	110	97	92	55	114	95	90	99	87	73	68	85	100	87	76	85	82				
56	120	123	110	95	65	123	116	100	116	100	82	90	109	120	97	93	90	94				
55	134	130	134	121	81	131	122	115	131	118	120	105	125	130	115	114	107	106				
54	160	159	165	138	102	180	140	147	138	157	142	165	163	148	131	127	158	150				
53	186	195	185	155	168		185	190	200	185	162	180	198	175	162	198		182				
52																						
51																						
50																						
49																						
48																						

TEMPERATURE INVERSIONS

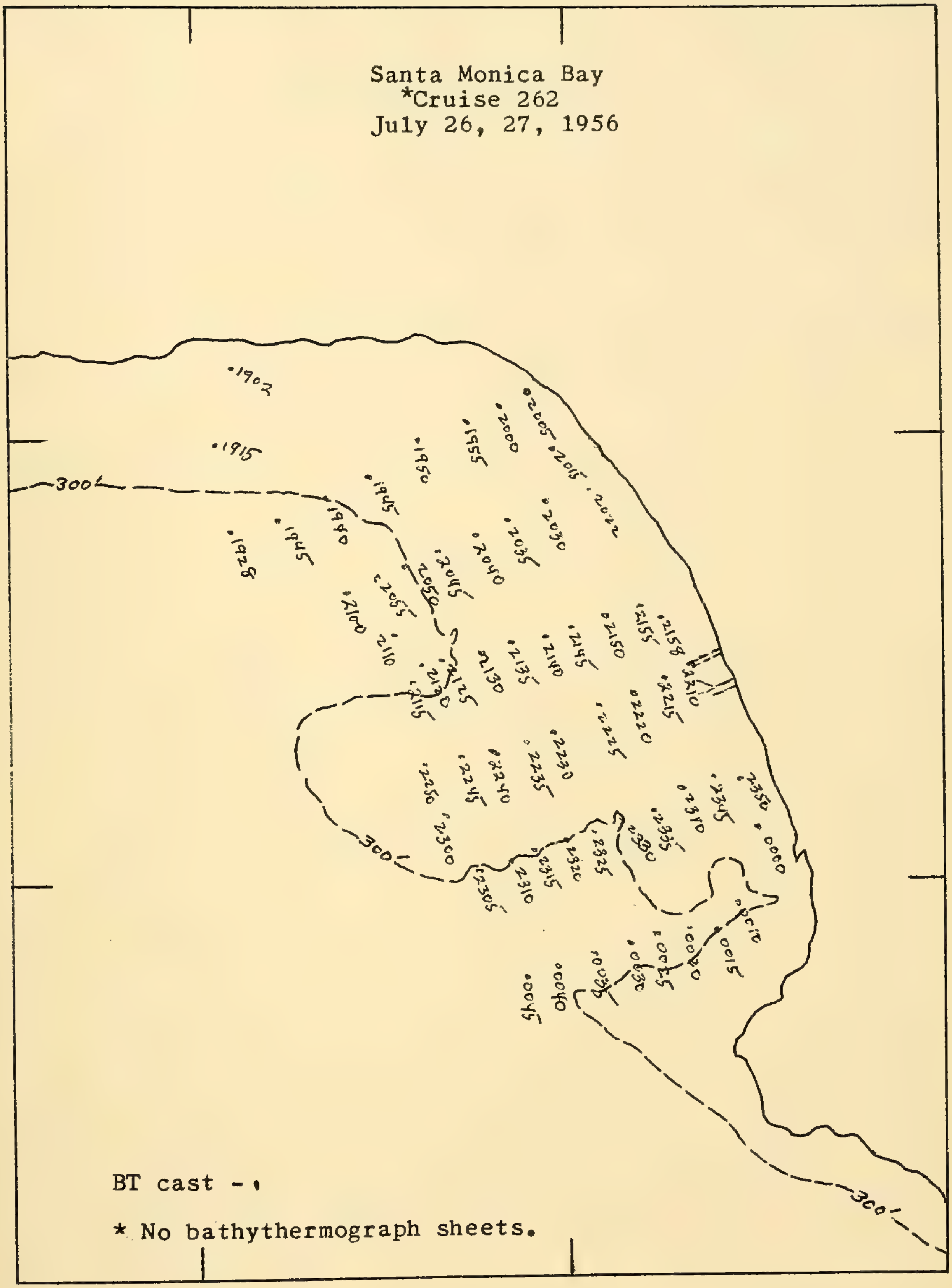
Cruise 260

Date: 6-28-56

Time: 1210

Temp.	Depth
65.2	Surf.
65	5′
66	8
67	10
67	11
66	12
65	18

Santa Monica Bay
*Cruise 262
July 26, 27, 1956



BT cast - •

* No bathythermograph sheets.

APPENDIX TO CRUISES

Drift Cards
Cruise 217

Station No.	Lat 33°	Long 118°	Date	Time	Cards Released Serial No.	Cards Released No.	Recovered No.	Recovered %	Area of Recovery and Remarks
3427	58'41"	32'23"	9-8-55	0850	21-24	4	1	25	Topanga Canyon
					771-775*	5	5	100	
3428	57'53"	34'35"	"	0915	26-30, 33-38, 40, 43-45	15	4	27	Topanga Canyon-Playa del Rey
					776-780*	5	5	100	
3429	57'07"	36'47"	"	0928	46-50, 53-54, 56-27, 59, 62-63, 65	13	7	54	Malibu-Playa del Rey
					781-785*	5	5	100	
3430	55'13"	35'15"	"	0941	66-69, 72, 76-82	12	8	67	Santa Monica-Redondo
					786-790"	5	2	40	
3431	56'09"	32'59"	"	0955	86, 89-98, 100-104	16	8	50	Zuma Beach, Malibu
					791-795*	5	0	0	Manhattan
3432	56'48"	30'48"	"	1009	106-125	20	8	40	Malibu
					796-800*	5	1	20	
3433	57'46"	27'58"	"	1023	126-132, 133-139-141-145	18	9	50	Playa del Rey
					801-805*	5	1	20	
3434	54'46"	29'33"	"	1052	147-152, 154, 156-165	17	7	41	Trancas Beach-Malibu
					806-810*	5	4	80	
3435	53'50"	31'44"	"	1107	166-185	20	6	30	Zuma Beach, Santa Monica, Playa del Rey, Redondo
					811-815*				
3436	53'11"	33'59"	"	1120	186-205	20	7	35	
					816-820*	5	3	60	Santa Monica, Alamitos Bay.
3437	51'34"	33'04"	"	1132	206-218, 220-225	19	9	47	Malibu, Santa Monica, Redondo
					821-825*	5	4	80	

*Unweighted cards

APPENDIX TO CRUISES

Drift Cards
Cruise 217

Station	Lat. 33°	Long 118°	Date	Time	Cards Released Serial No.	Cards Released No.	Recovered No.	Recovered %	Area of Recovery and Remarks
3438	52'21"	30'53"	9-8-55	1144	226-245	20	5	25	Malibu, Toponga
					826-830*	5	0	0	Canyon, Venice
3439	53'09"	28'39"	"	1157	246-265	20	14	70	Malibu, Venice-
					831-835*	5	2	40	Playa del Rey
3440	51'32"	27'49"	"	1240	266-285	20	6	30	Malibu, Ocean Park-
					836-840*	5	3	60	Playa del Rey
3441	50'43"	30'05"	"	1254	286-305	20	10	50	Manhattan
					841-845*	5	3	60	
3442	50'00"	32'18"	"	1306	306-325	20	9	45	Malibu, El Segundo-
					846-850*	5	4	80	Portuguese Bend
3443	49'02"	29'28"	"	1330	326-345	20	8	40	Malibu, Santa Monica-
					851-855*	5	3	60	Playa del Rey
3444	49'52"	27'16"	"	1344	346-365	20	13	65	Santa Monica-Ocean
					856-860*	5	5	100	Park, So.of Playa del Rey
3445	48'05"	26'36"	"	1407	366-385	20	5	25	Manhattan, Hermosa
					861-865*	5	0	0	
3506	48'03"	26'34"	9-29-55	1020	386-405	20	4	20	North Palos Verdes
					871-785*	5	4	80	
3507	49'45"	27'11"	"	1046	406-425	20	9	45	Redondo Beach-Palos
					876-880*	5	5	100	Verdes, Huntington Beach
3508	48'56"	29'28"	"	1059	426-445	20	5	25	Point Vicente, Ocean-
					881-885*	5	1	20	side-Encinitas
3509	48'11"	31'43"	"	1113	446-465	20	7	35	Corona del Mar-San Diego
					891-895*	5	0	0	
3510	49'55"	32'18"	"	1126	466-485	20	8	40	Huntington Beach-
					886-890*	5	1	20	Encinitas
3511	50'42"	30'03"	"	1137	486-505	20	9	45	Newport - La Jolla
					896-900*	5	3	60	
3512	51'28"	27'48"	"	1150	506-525	20	7	35	Redondo - Palos
					901-905*	5	0	0	Verdes

*Unweighted cards

APPENDIX TO CRUISES

Drift Cards
Cruise 217

Station No.	Lat 33°	Long 118°	Date	Time	Cards Released Serial No.	Cards Released No.	Recovered No.	Recovered %	Area of Recovery and Remarks
3513	53'05"	28'38"	9-29-55	1236	526-545	20	6	30	North Redondo
					906-910*	5	3	60	
3514	52'20"	30'52"	"	1250	546-565	20	8	40	Redondo, Point Vicente-
					911-915*	5	2	40	Dana Point
3515	51'33"	33'04"	"	1305	566-585	20	3	15	Huntington Beach-
					916-920*	5	1	20	Encinitas
3516	53'08"	33'59"	"	1317	586-605	20	11	55	Venice-Redondo,
					921-925*	5	5	100	Huntington Beach-La Jolla
3517	53'58"	31'46"	"	1333	606-625	20	15	75	Playa del Rey-
					926-930*	5	5	100	Redondo
3518	54'41"	29'29"	"	1345	626-645	20	7	35	Playa del Rey-
					931-935*	5	2	40	Redondo
3519	56'43"	30'45"	"	1433	646-665	20	4	20	Ocean Park-Playa del
					936-940*	5	5	100	Rey
3520	56'02"	32'37"	"	1447	666-685	20	7	35	Playa del Rey-
					941-945*	5	2	40	Manhattan
3521	55'09"	35'13"	"	1501	686-705	20	5	25	Santa Monica, Manhattan,
					946-950*	5	3	60	Redondo, North of
									Huntington Beach
3522	57'03"	36'47"	"	1519	706-725	20	8	40	Long Beach-Newport
					951-955*	5	4	80	
3523	57'48"	34'28"	"	1533	726-745	20	6	30	Malibu-Toponga, 1 recovery
					956-960*	5	3	60	at sea 1 mi west of
									release points
3524	58'48"	32'18"	"	1547	746-767	20	12	60	Toponga Canyon-
	34°				961-965*	5	5	100	Santa Monica
3525	00'58"	33'25"	"	1630	768-770	2	0	0	
					966-969*	4	1	25	

*Unweighted cards

APPENDIX TO CRUISES

Drift Cards

Cruise 234

Station	Lat 33°	Long 118°	Date	Time	Cards Released Serial No.	No.	Recovered No.	%	Area of Recovery and Remarks
3762	49'47"	27'15"	12-29-55	1039	1000 - 1015	16	2	13	Laguna, Carlsbad
3763	49'08"	29'37"	"	1051	1016 - 1031	16	1	6	Mission Beach (San Diego)
3764	48'12"	31'42"	"	1101	1032 - 1047	16	2	13	Newport, Capistrano
3765	49'54"	32'17"	"	1117	1048 - 1063	16	3	19	Long Beach, Capistrano, Carlsbad,
3766	50'41"	30'05"	"	1130	1064 - 1079	16	1	6	Newport
3767	51'31"	27'47"	"	1143	1080 - 1095	16	2	13	San Clemente, Oceanside
3768	53'07"	29'37"	"	1227	1096 - 1111	16	2	13	San Clemente, Carlsbad
3769	53'25"	30'54"	"	1237	1112 - 1127	16	3	19	Dana Point, Carlsbad, Encinitas
3770	51'32"	33'04"	"	1254	1128 - 1143	16	2	13	Balboa, Dana Point
3771	53'08"	34'00"	"	1307	1144 - 1159	16	5	31	Balboa, Oceanside - Leucadia
3772	53'52"	31'47"	"	1320	1160 - 1175	16	3	19	Huntington Beach - Corona del Mar
3773	54'43"	29'35"	"	1334	1176 - 1191	16	1	6	Newport
3774	56'48"	30'42"	"	1420	1192 - 1207	16	5	31	Newport-Torrey Pines, 1 two mi.no. of Hyperion
3775	55'57"	33'05"	"	1435	1208 - 1223	16	1	6	Rosarito Beach (B.C.)
3776	55'09"	35'13"	"	1447	1224 - 1239	16	6	38	Laguna, Oceanside, Carlsbad, 1 in water at Avalon Bay, Santa Catalina
3777	57'03"	36'49"	"	1505	1240 - 1255	16	4	25	Balboa, Dana Point, Del Mar, La Jolla
3778	57'51"	34'33"	"	1516	1256 - 1271	16	2	13	Cardiff, Solana Beach, Carlsbad
3779	58'38"	32'19"	"	1531	1272 - 1288	17	4	24	San Diego - 1 in water 2 miles off Venice

APPENDIX TO CRUISES
Drift Cards

Cruise 236

Station No.	Lat 33°	Long 118°	Date	Time	Cards Released Serial No.	Cards Released No.	Recovered No.	Recovered %	Area of Recovery and Remarks
3828	46'22"	27'00"	1-18-56	1105	1289 - 1313	25	0	0	
3829	48'05"	26'32"	"	1114	1314 - 1338	25	3	12	Malibu, Catalina Harbor
3830	49'47"	27'13"	"	1137	1339 - 1363	25	0	0	
3831	48'59"	29'26"	"	1150	1364 - 1388	25	2	8	Malibu, Hermosa
3832	48'12"	31'40"	"	1206	1389 - 1413	25	0	0	
3833	49'55"	32'17"	"	1216	1414 - 1438	25	1	4	South of Point Hueneme
3834	50'43"	30'00"	"	1230	1439 - 1463	25	2	8	Catalina Harbor
3835	51'30"	27'45"	"	1244	1464 - 1488	25	1	4	Point Mugu
3836	53'20"	28'37"	"	1327	1489 - 1513	25	0	0	
3837	52'20"	30'48"	"	1341	1514 - 1538	25	0	0	
3838	51'33"	33'03"	"	1355	1539 - 1563	25	2	8	Point Dume, Hueneme
3839	53'09"	33'58"	"	1413	1564 - 1588	25	5	20	Point Dume, Point Mugu
3840	53'57"	31'42"	"	1420	1589 - 1638	50	1	2	Ventura
3841	54'42"	29'29"	"	1436	1639 - 1648	10	1	10	La Jolla
3842	56'43"	30'44"	"	1537	1649 - 1659	10	0	0	#1650 missing
3843	55'58"	32'53"	"	1549	1660 - 1709	50	0	0	
3844	55'10"	35'10"	"	1604	1710 - 1719	10	0	0	
3845	57'03"	36'44"	"	1620	1720 - 1729	10	0	0	

APPENDIX TO CRUISES

Drift Cards
Cruise 236

Station No.	Lat 33°	Long 118°	Date	Time	Cards Released Serial No.	No.	Recovered No.	%	Area of Recovery and Remarks
3846	57'33"	34'29"	1-18-56	1635	1730 - 1739	10	0	0	
3847	58'38"	32'21"	"	1645	1740 - 1749	10	1	10	Point Dume

APPENDIX TO CRUISES

Drift Cards
Cruise 239

Station No.	Lat 33°	Long 118°	Date	Time	Cards Released		Recovered		Area of Recovery and Remarks
					Serial No.	No.	No.	%	
3931	55'40"	23'28"	2-16-56	0555	1750 - 1769	20	1	5	Lunada Bay (Palos Verdes)
3932	53'13"	32'57"	"	0610	1770 - 1789	20	0	0	
3933	49'47"	31'17"	"	0633	1790 - 1809	20	0	0	

APPENDIX TO CRUISES

Drift Cards
Cruise 240

Station No.	Lat 33°	Long 118°	Date	Time	Cards Released Serial No.	Cards Released No.	Recovered No.	Recovered %	Area of Recovery and Remarks
3934	49'43"	25'18"?	2-22-56	1043	1810 - 1823	14	0	0	
3935	49'02"	29'34"	"	1055	1824 - 1837	14	1	7	Malaga Cove
3936	48'17"	31'48"	"	1107	1838 - 1851	14	1	7	" "
3937	49'55"	32'20"	"	1118	1852 - 1865	14	1	7	" "
3938	50'44"	30'05"	"	1131	1866 - 1879	14	1	7	Torrey Pines
3939	51'31"	27'51"	"	1144	1880 - 1893	14	2	14	Hermosa, Redondo
3940	53'11"	28'38"	"	1226	1894 - 1907	14	3	21	" "
3941	52'21"	30'55"	"	1242	1908 - 1921	14	0	0	
3942	51'32"	33'07"	"	1255	1922 - 1935	14	0	0	
3943	53'10"	33'59"	"	1306	1936 - 1949	14	5	36	Manhattan - Redondo
3944	53'56"	31'43"	"	1320	1950 - 1972	23	7	30	El Segundo - Hermosa
3945	54'42"	29'32"	"	1332	1973 - 1986	14	3	21	Playa del Rey
3946	56'43"	30'46"	"	1419	1987 - 2000	14	7	50	Venice
3947	55'55"	33'00"	"	1434	2001 - 2023	23	9	39	Venice
3948	55'08"	35'12"	"	1447	2024 - 2037	14	4	29	Playa del Rey Playa del Rey
3949	57'03"	36'48"	"	1501	2038 - 2051	14	1	7	Ocean Park
3950	57'49"	34'35"	"	1516	2052 - 2066	15	4	27	Malibu, Santa Monica
3951	58'37"	32'13"	"	1529	2067 - 2081	15	6	40	Santa Monica

APPENDIX TO CRUISES

Drift Cards
Cruise 245

Station No	Lat 33°	Long 118°	Date	Time	Cards Released Serial No.	Cards Released No.	Recovered No.	Recovered %	Area of Recovery and Remarks
4025	46'19"	27'03"	3-28-56	1014	3000 - 3024	25	15	60	Playa del Rey - So. Redondo
4026	48'05"	26'30"	"	1025	3025 - 3049	25	7	28	Hermosa - Malaga Cove
4027	49'47"	27'11"	"	1048	3050 - 3074	25	14	56	El Segundo - So. Redondo
4028	48'58"	29'26"	"	1102	3075 - 3099	25	15	60	El Segundo - Manhattan
4029	48'12"	31'29"	"	1116	3100 - 3124	25	12	48	Hermosa - So. Redondo
4030	49'55"	32'17"	"	1129	3125 - 3149	25	12	48	Santa Monica, Manhattan, Redondo
4031	50'33"	30'00"	"	1143	3150 - 3174	25	10	40	Playa del Rey - Manhattan
4032	51'30"	27'48"	"	1156	3175 - 3199	25	10	40	Playa del Rey - El Segundo
4033	53'05"	28'37"	"	1128	3200 - 3224	25	7	28	Santa Monica - Manhattan
4034	52'17"	30'48"	"	1252	3225 - 3249	25	8	32	Santa Monica - So. Playa del Rey
4035	51'32"	33'00"	"	1300	3250 - 3274	25	15	60	Playa del Rey - Redondo
4036	53'07"	33'56"	"	1315	3275 - 3299	25	18	72	Santa Monica - Manhattan
4037	53'57"	31'45"	"	1329	3300 - 3349	50	28	56	Santa Monica - El Segundo, Manhattan
4038	54'42"	29'28"	"	1341	3350 - 3374	25	9	36	Santa Monica
4039	56'42"	30'43"	"	1423	3375 - 3399	25	6	24	Santa Monica
4040	55'55"	33'48"	"	1437	3400 - 3449	50	21	42	Toponga Canyon - El Segundo
4041	55'08"	35'08"	"	1450	3450 - 3474	25	10	40	Santa Monica El Segundo
4042	57'02"	36'44"	"	1505	3475 - 3499	25	7	28	Santa Monica - El Segundo

APPENDIX TO CRUISES

Drift Cards
Cruise 245

Station No	Lat 33°	Long 118°	Date	Time	Cards Released		Recovered		Area of Recovery and Remarks
					Serial No.	No.	No.	%	
4043	57'51"	34'25"	3-28-56	1518	3500 - 3524	25	11	44	Santa Monica, So. Venice
4044	58'36"	32'07"	"	1532	3525 - 3549	25	9	36	Santa Monica, Venice, Manhattan

APPENDIX TO CRUISES

Drift Cards
Cruise 250

Station No.	Lat 33°	Long 118°	Date	Time	Cards Released Serial No.	Cards Released No.	Recovered No.	Recovered %	Area of Recovery and Remarks
4197	47'54"	26'10"	4-25-56	1018	3550 - 3574	25	15	60	Santa Monica, Playa del Rey to Torrance Beach
4198	49'43"	27'15"	"	1054	3575 - 3599	25	14	56	Santa Monica
4199	49'00"	29'28"	"	1102	3600 - 3624	25	15	60	Playa del Rey
4200	48'17"	31'43"	"	1116	3625 - 3649	25	20	80	Playa del Rey, Manhattan
4201	49'53"	32'19"	"	1134	3650 - 3674	25	16	64	El Segundo, Manhattan
4202	50'42"	30'03"	"	1144	3675 - 3699	25	11	44	El Segundo, Manhattan Redondo
4203	51'30"	27'48"	"	1158	3700 - 3724	25	12	48	Santa Monica, Playa del Rey, El Segundo
4204	53'03"	28'28"	"	1247	3725 - 3749	25	11	44	Topanga Canyon to Venice
4205	52'18"	30'48"	"	1259	3750 - 3774	25	12	48	Topanga Canyon, Santa Monica, Playa del Rey
4206	51'31"	33'05"	"	1312	3775 - 3799	25	13	52	Playa del Rey to Manhattan
4207	53'05"	33'47"	"	1324	3800 - 3824	25	9	36	Playa del Rey to El Segundo
4208	53'52"	31'45"	"	1335	3825 - 3875	50	18	36	Playa del Rey, El Segundo
4209	54'42"	29'34"	"	1350	3876 - 3900	25	18	72	Playa del Rey, Redondo #3837 missing
4210	56'43"	30'43"?	"	1453	3901 - 3925	25	11	44	Santa Monica, Playa del Rey
4211	55'51"	33'01"	"	1507	3926 - 3975	50	27	54	Malibu, Santa Monica to Playa del Rey, El Segundo
4212	55'04"	35'11"	"	1519	3976 - 4000	25	12	48	Santa Monica to Playa del Rey
4213	57'00"	36'43"	"	1535	4001 - 4025	25	18	72	Malibu, Venice to Playa del Rey

APPENDIX TO CRUISES

Drift Cards
Cruise 250

Station No.	Lat 33°	Long 118°	Date	Time	Cards Released		Recovered		Area of Recovery and Remarks
					Serial No.	No.	No.	%	
4214	57'48"	34'32"	4-25-56	1549	4026 - 4050	25	12	48	Malibu, Santa Monica to El Segundo
4215	58'35"	32'21"	"	1602	4051 - 4075	25	12	48	Malibu to Santa Monica, Hermosa

APPENDIX TO CRUISES

Drift Cards
Cruise 254

Station No.	Lat 33°	Long 118°	Date	Time	Cards Released Serial No.	Cards Released No.	Recovered No.	Recovered %	Area of Recovery and Remarks
4248	58'30"	32'19"	5-23-56	2142	4076 - 4085	10	4	40	Santa Monica to Venice
4249	57'43"	34'29"	"	2155	4086 - 4095	10	5	50	Santa Monica to Playa del Rey
4250	56'58"	36'42"	"	2208	4096 - 4107	10	3	30	#4100, 4101 missing
4251	55'05"	35'08"	"	2223	4108 - 4117	10	7	70	Manhattan, Torrance Beach to Palos Verdes Point
4252	55'49"	33'02"	"	2237	4118 - 4157	40	20	50	Santa Monica to El Segundo, Manhattan
4253	56'41"	30'41"	"	2252	4158 - 4167	10	9	90	Hermosa to Malaga Cove
4254	54'35"	29'30"	"	2335	4168 - 4177	10	5	50	Hermosa to Torrance Beach
4255	53'50"	31'44"	"	2348	4178 - 4217	40	22	55	Trancas Beach, Hermosa to ~~Rocky Pt.,~~ Pt. Vicente
4256	53'12"	33'55"	5-24-56	0002	4218 - 4227	10	2	20	Redondo, Lunada Bay
4257	51'27"	33'06"	"	0012	4228 - 4237	10	1	10	San Onofre
4258	52'18"	30'49"	"	0026	4238 - 4247	10	4	40	Redondo to Rocky Point
4259	53'05"	28'38"	"	0040	4248 - 4257	10	6	60	Redondo to Torrance Beach
4260	51'27"	27'47"	"	0120	4258 - 4267	10	6	60	Manhattan to Redondo
4261	50'36"	30'02"	"	0134	4268 - 4277	10	4	40	Redondo, Portuguese Bend, San Pedro
4262	49'47"	32'15"	"	0148	4278 - 4287	10	2	40	Redondo, Lunada Bay
4263	48'15"	31'43"	"	0158	4288 - 4297	10	0	0	No returns
4264	48'57"	29'26"	"	0215	4298 - 4307	10	2	20	Portuguese Bend
4265	49'43"	27'13"	"	0228	4308 - 4317	10	5	50	Manhattan to Redondo
4266	47'48"	25'43"	"	0302	4318 - 4329	12	6	50	Torrance Beach to Rocky Point

APPENDIX TO CRUISES

Drift Cards
Cruise 259

Station	Lat 33°	Long 118°	Date	Time	Cards Released Serial No.	No.	Recovered No.	%	Area of Recovery and Remarks
4297	48'05"	25'56"	6-19-56	1002	4330 - 4354	25	12	48	Malaga Cove to Lunada Bay
4298	49'49"	27'20"	"	1039	4355 - 4379	25	15	60	Torrance Beach to Malaga Cove
4299	49'02"	29'33"	"	1051	4380 - 4404	25	14	56	Manhattan to Palos Verdes Point
4300	48'15"	31'47"	"	1106	4405 - 4429	25	11	44	Venice to Portuguese Bend
4301	49'56"	32'22"	"	1112	4430 - 4454	25	12	48	Topanga, Venice to Malaga Cove, North of Pt. Vicente
4302	50'46"	30'03"	"	1132	4455 - 4479	25	13	52	Venice to Redondo
4303	51'34"	27'50"	"	1145	4480 - 4504	25	13	52	El Segundo to Redondo
4304	53'12"	28'41"	"	1223	4505 - 4529	25	12	48	Manhattan to Hermosa
4305	52'21"	30'56"	"	1239	4530 - 4554	25	15	60	Ocean Park to Hermosa
4306	51'33"	33'07"	"	1250	4555 - 4579	25	9	36	Santa Monica to Playa del Rey
4307	53'12"	34'00"	"	1303	4580 - 4604	25	16	64	Venice, South of Playa del Rey
4308	53'58"	31'46"	"	1316	4605 - 4654	50	27	54	Santa Monica to Hermosa
4309	54'43"	29'33"	"	1328	4655 - 4679	25	17	68	Playa del Rey to Hermosa
4310	56'46"	30'44"	"	1342	4680 - 4704	25	16	64	Santa Monica, Venice to Playa del Rey
4311	55'58"	32'57"	"	1412	4705 - 4754	50	26	52	Santa Monica to Playa del Rey and Hermosa
4312	55'10"	35'12"	"	1438	4755 - 4779	25	17	68	Venice to Hermosa

APPENDIX TO CRUISES

Drift Cards
Cruise 259

Station	Lat 33°	Long 118°	Date	Time	Cards Released Serial No.	Cards Released No.	Recovered No.	Recovered %	Area of Recovery and Remarks
4313	57'02"	36'48"	6-19-56	1457	4780 - 4804	25	12	48	Zuma Beach, Malibu, Santa Monica to Hermosa
4314	57'51"	34'31"	"	1508	4805 - 4829	25	12	48	Venice to Redondo
4315	58'37"	32'17"	"	1521	4830 - 4854	25	11	44	Zuma Beach, Malibu, Topanga Canyon to Santa Monica

APPENDIX TO CRUISES

Drift Cards
Cruise 260

Station No.	Lat 33°	Long 118°	Date	Time	Cards Released Serial No.	Cards Released No.	Recovered No.	Recovered %	Area of Recovery and Remarks
4452	56'33"	30'45"	6-29-56	0923	5167-5176	10	3	30	Venice
4453	56'02"	30'31"	"	1001	5177-5186	10	5	50	Ocean Park to Playa del Rey
4454	55'32"	30'17"	"	1005	5187-5196	10	8	80	Santa Monica to Playa del Rey
4455	55'04"	30'06"	"	1044	4856-4861 & 5197-5200	10	8	80	Santa Monica, Playa del Rey
4456	54'35"	29'53"	"	1050	5130-5139	10	9	90	Santa Monica to South Playa del Rey
4457	54'08"	29'41"	"	1125	5140-5149	10	5	50	Venice to Playa del Rey
4458	53'38"	29'27"	"	1128	5150-5160*	10	7	70	Venice to Playa del Rey, El Segundo, Manhattan *5156 missing
4459	53'11"	29'15"	"	1205	5161-5166 & 5065-5068	10	7	70	Venice to El Segundo
4460	52'42"	29'03"	"	1208	5069-5078	10	3	30	Venice to Playa del Rey
4461	52'15"	28'51"	"	1249	5079-5088	10	5	50	Playa del Rey
4462	51'47"	28'38"	"	1252	5089-5099*	10	5	50	*5096 missing Playa del Rey

APPENDIX TO CRUISES

Drift Cards
Cruise 262

Station No.	Lat	Long 118°	Date	Time	Cards Released Serial No.	Cards Released No.	Recovered No.	Recovered %	Area of Recovery and Remarks
4465	34° 00'10"	39'15"	7-26-56	1914	6000 - 6023	24	11	46	Topanga, Santa Monica
4466	33° 58'30"	38'10"	"	1926	6024 - 6046	23	10	43	Santa Monica to Playa del Rey
4467	59'17"	35'55"	"	1938	6047 - 6069	23	4	17	Santa Monica to Playa del Rey
4468	34° 00'03"	33'42"	"	1951	6070 - 6092	23	5	22	Santa Monica to Playa del Rey
4469	33° 58'10"	31'56"	"	2037	6093 - 6115	23	7	30	Playa del Rey to El Segundo
4470	57'26"	34'10"	"	2050	6116 - 6138	23	10	43	Ocean Park to Manhattan
4471	56'44"	36'08"	"	2102	6139 - 6162	24	15	63	Ocean Park to North Manhattan
4472	54'46"	34'52"	"	2115	6163 - 6185	23	5	22	Playa del Rey to N. Redondo
4473	55'32"	32'40"	"	2129	6186 - 6235	50	30	60	Playa del Rey to Redondo
4474	56'15"	30'28"	"	2141	6236 - 6256	21	9	42	Playa del Rey, Manhattan
4475	54'13"	29'18"	"	2226	6259 - 6281	23	14	60	Manhattan to Hermosa
4476	53'30"	31'30"	"	2238	6282 - 6331	50	36	72	Manhattan-Redondo, Malaga Cove
4477	52'43"	33'44"	"	2251	6332 - 6354	23	9	39	Manhattan to Rocky Point
4478	50'37"	32'36"	"	2305	6355 - 6377	23	14	60	El Segundo to Lunado Bay, Long Beach
4479	51'23"	30'24"	"	2320	6378 - 6400	23	11	47	Hermosa to Malaga Cove
4480	52'08"	28'08"	"	2333	6401 - 6423	23	16	69	Hermosa to Torrance Beach
4481	49'23"	26'51"	"	0022	6424 - 6446	23	14	56	Redondo to Rocky Point

APPENDIX TO CRUISES

Drift Cards
Cruise 262

Station No.	Lat 33°	Long 118°	Date	Time	Cards Released		Recovered		Area of Recovery and Remarks
					Serial No.	No.	No.	%	
4482	48'47"	29'07"	7-26-56	0037	6447 - 6469	23	10	43	Manhattan to Torrance Beach
4483	47'53"	31'16"	"	0047	6470 - 6492	23	10	43	Manhattan to Hermosa, Resort Point to Portuguese Bend, Laguna Beach

APPENDIX TO CRUISES

Drift Cards
Cruise 266

Station No.	Lat	Long 118°	Date	Time	Cards Released Serial No.	Cards Released No.	Recovered No.	Recovered %	Area of Recovery and Remarks
4495	34° 00'56"	32'46"	8-9-56	1853	6493 - 6515	23	15	65	Santa Monica to Venice
4496	33° 57'00"	36'42"	"	1929	6516 - 6538	23	7	30	Santa Monica to Venice
4497	57'48"	34'28"	"	1943	6539, 6541-6562	23	7	30	Topanga to Venice
4498	58'34"	32'20"	"	1956	6563 - 6585	23	10	43	Ocean Park, Playa del Rey
4499	56'42"	30'42"	"	2044	6586 - 6608	23	12	52	Ocean Park to Playa del Rey
4500	55'50"	33'01"	"	2057	6609 - 6658	50	21	46	Santa Monica to Venice
4501	55'02"	35'10"	"	2109	6659 - 6681	23	11	47	Santa Monica to Playa del Rey
4502	53'03"	33'58"	"	2124	6682 - 6704	23	4	17	Portuguese Bend
4503	53'52"	31'45"	"	2137	6705 - 6755	50	20	40	6750 missing Venice to Manhattan
4504	54'40"	29'32"	"	2151	6756 - 6778	23	12	52	Venice to Playa del Rey
4505	53'03"	28'36"	"	2232	6779 - 6801	23	12	52	El Segundo to Hermosa
4506	52'17"	30'47"	"	2244	6802 - 6824	23	9	39	Hermosa to Redondo
4507	51'28"	33'05"	"	2259	6825 - 6847	23	2	8	Avalon, Catalina Island
4508	49'50"	32'19"	"	2308	6848 - 6870	23	2	8	Avalon, Catalina Island
4509	50'40"	30'02"	"	2322	6871 - 6893	23	7	30	Hermosa
4510	51'29"	27'46"	"	2326	6894 - 6916	23	11	47	Manhattan to Hermosa
4511	49'43"	27'15"	8-10-56	0018	6917 - 6939	22	9	41	6957 missing Redondo to Malaga Cove

APPENDIX TO CRUISES

Drift Cards
Cruise 266

Station	Lat	Long	Date	Time	Cards Released		Recovered		Area of Recovery and
No.	33°	118°			Serial No.	No.	No.	%	Remarks
4512	49'00"	29'27"	8-10-56	0031	6940 - 6963	24	12	50	Hermosa to Torrance Beach, S. of Resort Point, Palos Verdes
4513	48'22"	31'46"	"	0044	6964 - 6986	23	3	13	Long Beach to Huntington Beach

APPENDIX TO CRUISES

Drift Cards
Cruise 270

Station No.	Lat 33°	Long 118°	Date	Time	Cards Released Serial No.	Cards Released No.	Recovered No.	Recovered %	Area of Recovery and Remarks
4623	58'22"	32'14"	8-20-56	2006	4906 - 4929	23	12	52	Topanga Canyon Santa Monica 4913 missing
4624	57'52"	34'28"	"	2019	4930 - 4953	23	1	4	Malibu
4625	57'04"	36'45"	"	2034	4954 - 4976	23		0	
4626	55'08"	35'09"	"	2049	4977 - 4999	23		0	
4627	55'57"	32'48"	"	2104	5000 - 5050	50	17	34	Malibu, Toponga Cany. Santa Monica 5034 missing
4628	56'45"	30'41"	"	2112	5051 - 5063 6987 - 6996	23	8	34	Malibu, Santa Monica
4629	54'42"	29'30"	"	2159	6997 - 7019	23	15	65	Malibu, Santa Monica
4630	53'55"	31'38"	"	2213	7020 - 7069	50	5	10	Zuma Beach, Malibu, Santa Monica
4631	53'08"	33'56"	"	2225	7070 - 7092	23		0	
4632	51'32"	33'01"	"	2236	7093 - 7115	23	2	8	Malibu, Manhattan
4633	52'19"	30'47"	"	2251	7116 - 7138	23	9	39	Zuma Beach, Malibu
4634	53'07"	38'33"	"	2304	7139 - 7161	23	11	47	Zuma Beach, Santa Monica
4635	51'30"	27'45"	"	2343	7162 - 7184	23	13	56	Playa del Rey, Hermosa
4636	50'42"	30'00"	"	2357	7185 - 7207	23	4	17	Malibu, Santa Monica, Venice
4637	49'55"	32'14"	8-21-56	0010	7208 - 7230	23	7	30	Zuma Beach, Malibu, Redondo

APPENDIX TO CRUISES

Drift Cards
Cruise 270

Station No.	Lat 33°	Long 118°	Date	Time	Cards Released Serial No.	Cards Released No.	Recovered No.	Recovered %	Area of Recovery and Remarks
4638	48'13"	31'37"	8-21-56	0010	7231 - 7253	23	7	30	Malibu, Hermosa
4639	48'55"	29'22"	"	0035	7254 - 7276	23	8	34	Santa Monica, Venice,
4640	49'42"	27'10"	"	0049	7277 - 7300	23	9	39	Manhattan, Hermosa 7281 missing
4641	48'03"	26'31"	"	0119	7301 - 7323	23	10	43	Manhattan, Hermosa